DUN'S REVIEW and Modern Industry

A DUN & BRADSTREET PUBLICATION

NOVEMBER 1956
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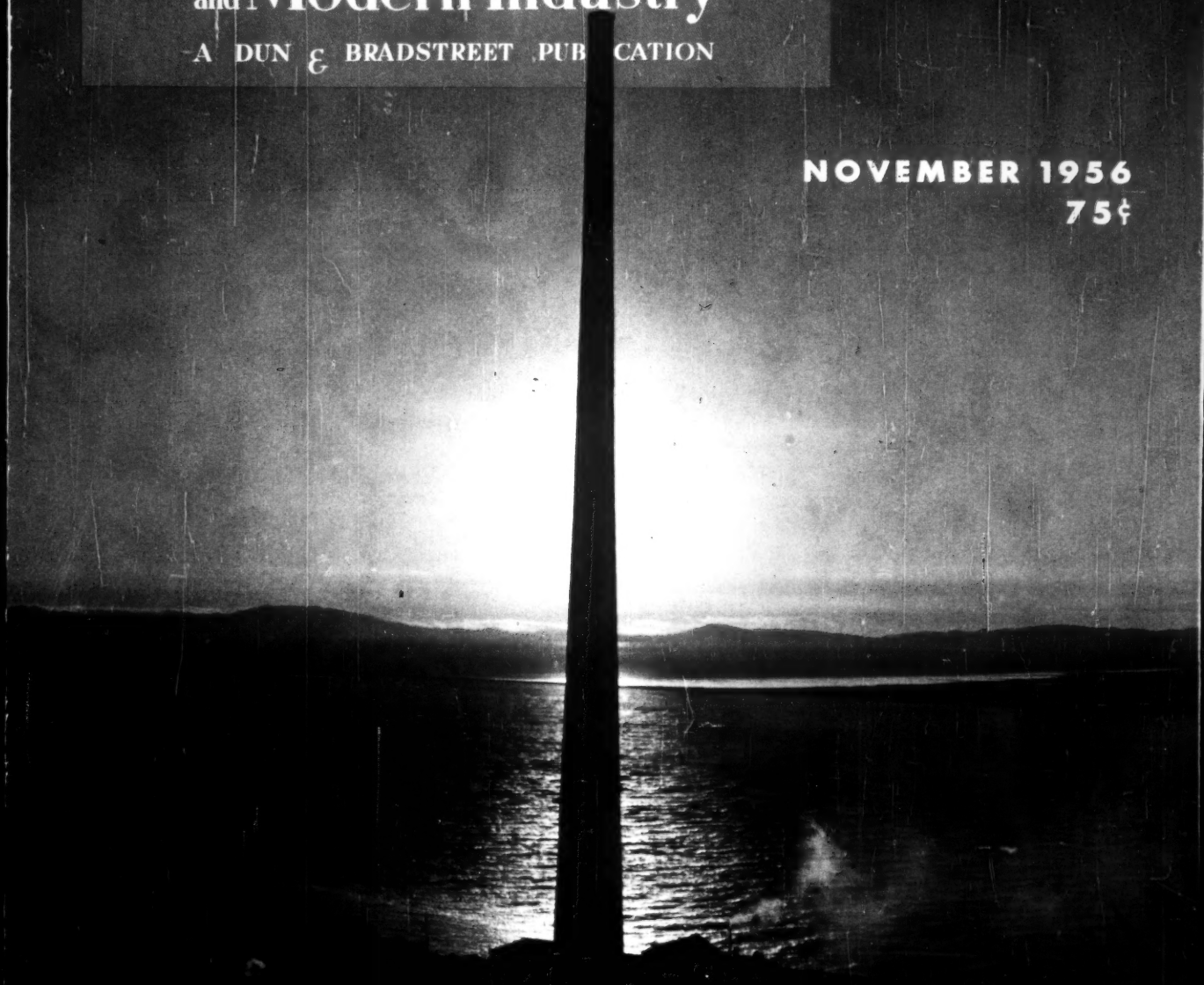

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VOLUME 69 NO. 1 NOVEMBER 1956

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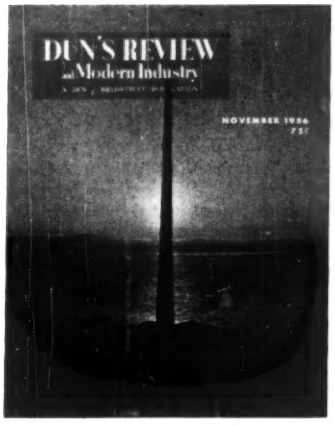
THIS MONTH'S COVER



Nine inches higher than Chicago's Board of Trade Building, the giant smokestack of American Smelting and Refining's smelters at Selby, Cal., rises 605 feet, 9 inches in the industrial area of San Francisco. Color transparency by Dick Steinheimer.

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DUN'S REVIEW AND MODERN INDUSTRY, November 1956, Vol. 69, No. 1. Published monthly by Dun & Bradstreet Publications Corporation. Publication Office: 300 West Adams Street, Chicago, Ill. Editorial, Advertising, and Subscription offices: 99 Church Street, New York 8, N. Y., DIgby 9-3300. Entered as second class matter at the Post Office, Chicago, Ill.

Address all correspondence to the New York office. Subscription: $5 a year in USA and Possessions, and Canada. Elsewhere, $10. Single copy, 75 cents. Please state title and employing company when subscribing.

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THE REVIEWING STAND

With this issue we present the newly tailored DUN'S REVIEW AND MODERN INDUSTRY, incorporating changes in size, binding and typography plus a number of new editorial features. This change-over offers an appropriate time and place for a definition of editorial policy. While the following policy statement may be revised in minor respects from time to time, it represents essentially where we stand:

DUN'S REVIEW AND MODERN INDUSTRY is a magazine of broad-gaged service to business in a field that covers principles, methods, statistics, and techniques in the management of industry, the distribution of goods, and the performance of commercial services. Within the somewhat pliable fences which define and discipline our scope of action, there is plenty of freedom for editorial enterprise. There is specific focus on topics relating to top management planning, secondary management responsibility, executive methods, business trends, sales promotion, product research, plant operating procedures, and international trade. There is always room for the occasional "off beat" article touching on ethics, esthetics, and personal welfare as they apply to the business man at his work or leisure. We are concerned editorially with improved management for big business, middle business and little business, in the belief that management principles apply at all levels of authority and that management methods can be acquired and shared by all business enterprises, whether in competition or cooperation.

The primary test of an article in DUN'S REVIEW AND MODERN INDUSTRY is reader interest. The second test is utility. The basic utility pattern is fixed by the scope and limitations of the departmental editors, who cover executive management in all its classifications: finance, marketing, manufacturing, exports, personnel, and plant supervision. The magazine has a point of view which is expressed or reflected in its editorials. The philosophic approach to any management principle or problem is anchored in a belief that American business is best managed in a competitive climate, and is best regulated under self-restraint. The magazine reserves the right to praise, censure, or suggest remedies for any action by government or business which handicaps unfairly the producer, distributor, or the consumer, or endangers the general health of the economy. The magazine is committed to the principle that profits are the just rewards of business enterprise, the test of management capacity, and a necessary incentive to growth and survival. But it believes that profits are the means, and service to the community is the end for which business exists.—A. M. S.

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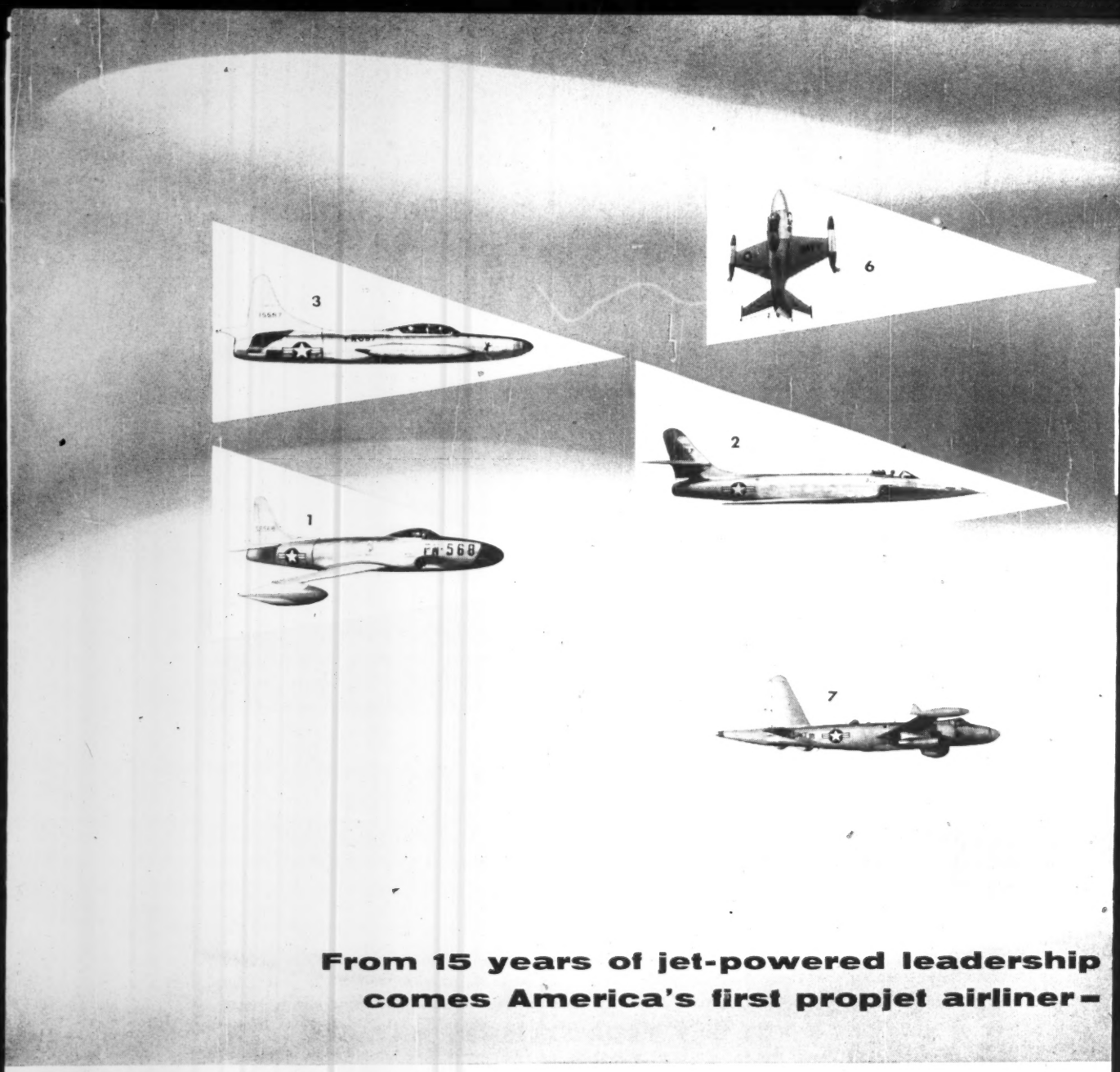

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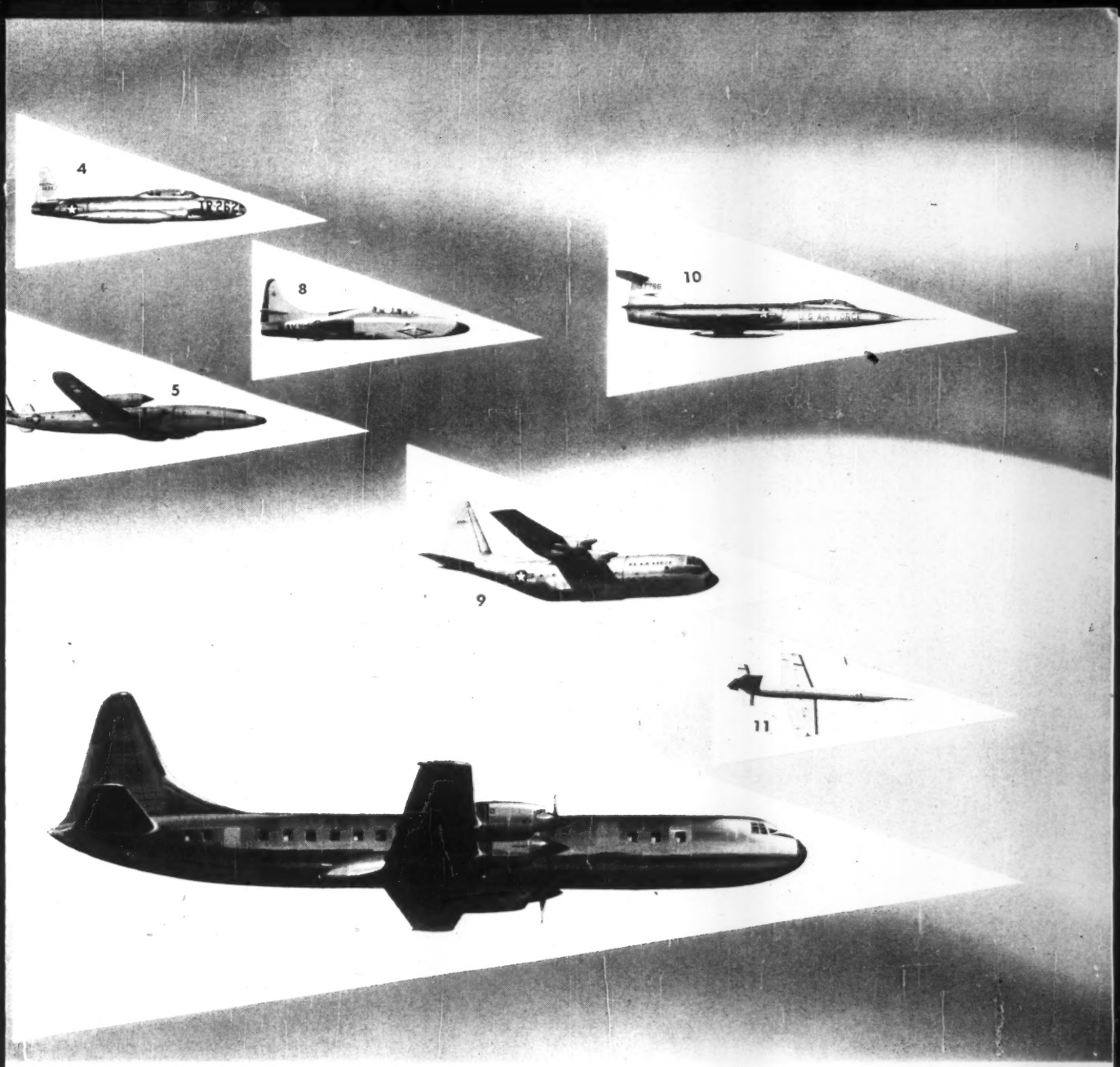

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9. PROPJET C-130 Hercules—the versatile new go-anywhere, haul-anything "strongman" of the USAF that led America into a new era of swift, low-cost movement of heavy cargo.

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HEARD IN WASHINGTON

What legislation will receive top attention when the new Congress convenes? Here's a preview from Paul Wooton, reporter of Capitol news through several administrations.

A GREAT MASS of proposed legislation will confront the new Congress when it assembles in January. Of the 15,039 bills and resolutions introduced during the last Congress, only 1,921 became law. Many of the bills that died with the end of the 84th Congress will be reintroduced at the forthcoming session. In addition, new bills in great numbers are always introduced in the early days of a session, particularly one following a Presidential election. Platforms and candidates make promises, and the first step in fulfillment of a pre-election promise is the introduction of a bill—although in many instances that is as far as the effort goes.

But only routine work precedes the State of the Union Message. Legislative programs and priorities are held in abeyance until the President submits that important message, usually within a fortnight of the convening date. After that, these are the probabilities:

Legislation pertaining to foreign policy and to foreign aid will rank high in importance. This is apparent from campaign declarations.

Proposals for aiding small business will be taken up. While there is a difference of opinion as to the state of small business, so much was said on that subject by pre-election speakers for both parties that legislation is certain to be proposed. The small business man is not far behind the farmer when it comes to political attention.

School-aid legislation will be among the first matters considered, and prospects favor early passage of a bill.

Broadening the base of the excise taxes, plus related changes, will come in for consideration early in the session, along with the renewal of the corporation tax that expires April 30. Any change in that tax would be aimed at relief for small business. No reduction in the top 52 per cent rate is probable.

No important farm legislation will be voted in the early part of the session. Because of the stress put on agriculture in the recent campaign, the committees on agriculture will be the busiest in Congress; but because of the complicated character of farm problems, it will take time to evolve a bill.

More money for national defense will be voted; but it will not buy more defense, since costs are up.

A rivers and harbors measure will be among the early authorizations. It will eliminate some of the items in the $1.6 billion bill passed at the last session and vetoed by the President, but will include some new projects.

Postal rates will be taken up again promptly after Congress meets.

The battle over the Organization for Trade Cooperation (OTC) and the General Agreement on Trade and Tariff (GATT) will be on again before January ends.

The atomic reactor program and the whole question of public and private power—having received new stimulation during the campaign—will be the subject of much debate. Action that may be far-reaching is expected. An effort will be made to reverse the action taken at the last session on the Hell's Canyon project.

The gas bill will come up again, but with its chances impaired by the furor over claims that questionable methods were employed in its behalf. Prospecting for oil and gas has fallen off so sharply that action may be hastened.

Campaign expenditures, quotas for refugees, and payments to veterans for nonservice-connected disabilities will be pushed. Also, party platforms promised legislation along these lines: civil rights, minimum wage, anti-trust, government procurement policies, to mention a few.

Washington notes

Sound money never had a more bustling advocate than Treasury Secretary Humphrey. He brings up the subject with anyone who talks with him. No robber, he told this correspondent, is as ruthless as inflation: It has been allowed to mulct the thrifty of vast sums that had required great self-denial to save. It has taken its booty from every wage earner and every pensioner. Insurance protection has been cut in half. When the value of the dollar declines, there is less incentive to save.

"The problems of prosperity," stresses Humphrey, "are tougher than the problems of adversity. In adversity the whole idea is to get it over with. Many things must be done to keep prosperity going. We do not want to go up only to come down again. We must learn to live with prosperity. Prosperity is outrunning the nation's resources. Expansion must be kept in step with the availability of labor and materials. Defense spending is putting $40 billion of pressure on supplies of materials and labor."

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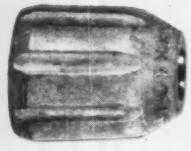
No electroplating--no mechanical finishing!



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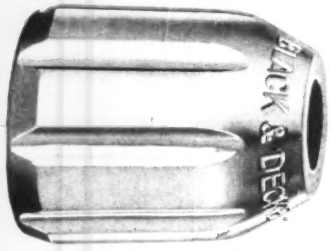

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Treasury. His prescription is: Keep money sound; reduce taxes; let money rates seek natural levels. Of course he wants tax reduction, but only when there is a surplus.

Sinclair Weeks, the Secretary of Commerce, believes the following developments should be receiving special attention in business circles:

Never before in peacetime has the country been confronted with a price problem so complex and difficult. The demand for goods is increasing at a faster rate than they can be supplied. Steel is only one of a thousand commodities to which that applies. Higher costs on one side and a strong demand on the other make for a double squeeze.

At present, competition on the retail level is so intense that many of the wholesale increases are being absorbed and not passed on to the consumer. But Weeks and other officials fear that consumers, realizing price increases are probable, will rush into the market and make the situation worse. Glamorous new automobiles may be the spark that sets off a buying spree.

Information reaching the Commerce Department indicates that expenditures for plant and equipment will be at an annual rate of $38 billion by December 31.

The Federal Reserve reports told that despite "tight" money—and the officials there do not like that word—more loans are being made than ever before. More municipal bond issues are being floated. There is more demand for credit from consumers. "The economy," Chairman William McChesney Martin points out, "is trying to spend more money than it has and is trying to buy more goods than are available." His recommendations are: Business executives should be careful not to use funds that should be set aside for taxes. There should be no gambling with the future. Expansion should be budgeted, and the capital acquired from equities or bonds rather than from loans that the banks should not make. It is dangerous to speculate on the possibility that money will be cheaper. There is too much speculative indifference. Big buildings are started without proper financial ar-

rangements. Railroads buy equipment on term loans instead of selling equipment certificates. Banks do not have the courage to say "no" to good customers.

Nevertheless, Federal Reserve economists think the country is going into 1957 with bright prospects. They are not so optimistic about the long pull.

Studies being made of business mergers show a trend which officials regard as significant. Instead of absorbing competitors, companies are seeking to diversify their operations. Thus a slackening of demand for one product may be offset by sustained demand for another.

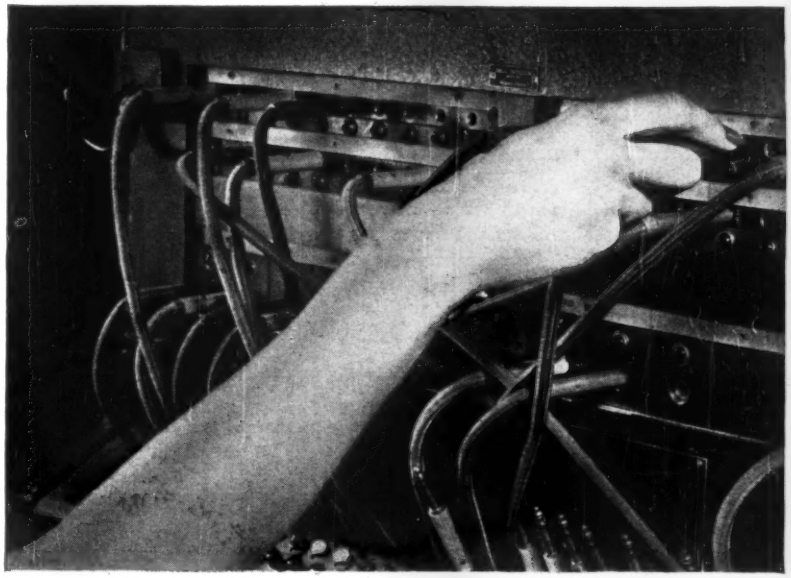
In providing ways for low-income farmers to supplement their earnings, Walter Williams, Under Secretary of Commerce, and a member of the interdepartmental committee, is placing reliance on off-farm employment in business and industry. Many companies are looking with favor on locating plants in areas where such labor is available. This is in line with efforts being made by the Office of Defense Mobilization to bring about dispersal of industries. The prospect of accelerated depreciation has induced more than 60 companies to decentralize some of their operations.

An instance of the recognition of career people in government is the selection of Horace B. McCoy as administrator of the Business and Defense Services Administration. Such appointments encourage professionalism in government, where many of the jobs are complex and highly specialized. As deputy administrator, McCoy demonstrated particular fitness. He has behind him 36 years of experience in government-business relationships.

The Business and Defense Services Administration is concerned with keeping industry ready for quick mobilization in the event of an emergency. It works closely with the Office of Defense Mobilization and provides a six months' training period for men who could be called into the government service if the need should arise.

Paul Wooton

WASHINGTON, D. C.



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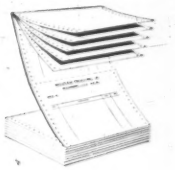
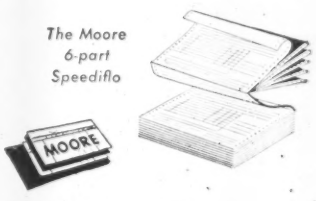
Any company, large or small, can enjoy practical ADP benefits like those above. A good start is calling in the Moore man to review your system requirements for improvements. He's in the Classified or can be reached by writing the Moore office nearest, below.



The Moore 5-part Shipping set

The Moore 6-part Speediflo



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Since 1882 the world's largest manufacturer of business forms and systems. Over 300 offices and factories across U.S. and Canada.

What's New

IN STEEL FROM STOCK

In the news today are many developments of interest to those who specify, buy or work with steel. Ways in which you can raise efficiency and lower costs in your operations may be suggested by the following summary.

NEW IN RYERSON STOCK—Cold finished Ledloy hexagons in sizes up to 3". (Previous maximum size: 1½".)...Welded, square, structural tubing with a lighter wall. Advantages: Costs less yet has all the strength, good surface, etc., needed for ornamental applications.

NEW TYPE 202 STAINLESS NOW AVAILABLE FROM RYERSON—Pioneering with a new type of stainless steel, Ryerson now offers Type 202 sheets, No. 2B and No. 4 finishes in popular gauges and sizes, for quick shipment from stock. Since nickel may continue in short supply for some time, interest in this new stainless has been strong. Reasons: Type 202 contains only half as much nickel as Type 302 yet compares favorably with 302 in corrosion resistance, fabricates as readily as 302 and costs 2¼¢ per lb. less.

WHAT ABOUT HOT ROLLED BARS? A leading metal-working publication recently listed hot rolled carbon steel bars as a hard-to-get product—but this is not the case when you draw on Ryerson stocks. Our inventories of hot rolled bars have seldom been better, both as to tonnage and size range.

NEW, ACCURATE I.D. ON CYLINDER TUBING FROM STOCK—In hydraulic cylinder applications, the I.D. is the critical tubing dimension. Yet, until now, buyers of tubing from warehouse stocks could specify only O.D. and wall—and wall thickness may vary as much as plus or minus 10% under standard manufacturing tolerances. As a result, I.D. dimensions could vary so widely that tubing was not suitable for cylinder use. But now buyers may specify both O.D. and I.D. when ordering cold drawn seamless tubing from Ryerson (in 2" through 9" O.D. sizes)—thus assuring the accurate I.D. dimensions needed for cylinders. We believe we are the only warehouse to carry this stock.

REPORT ON NEW E-Z-CUT PERFORMANCE—New proof of the quality of Ryerson's leaded plate steel, New E-Z-Cut, was reported by company which recently made a mold for a miniature tire. Some of the tiny lands forming the tread design were only .015" thick but $30 worth of New E-Z-Cut took the risk out of the $4000 machining job. Because New E-Z-Cut is remarkably clean and free of excessive stringers, even the finest lands of the mold were sharp and true. Because New E-Z-Cut machines up to 30% faster than mild steel, the difficult job was completed in record time. High finish made the mold easy to prepare for plating.

FLUID LINE TUBING WITH IMPROVED FINISH—Another new Ryerson product is Hydra-Luster hydraulic fluid line tubing which has an unusually beautiful finish, free from scale and surface defects because of a new method of atmospherically controlled annealing. This tubing is on hand in all sizes through ¾" O.D. x 16 gauge wall.

PVC PLASTIC PIPE IN LARGE DIAMETERS—8" and 10" pipe in both schedule 40 and 80 have been added to growing Ryerson stocks of the remarkably anti-corrosive plastic—Ryertex-Omicron polyvinyl chloride. Also available: smaller size of pipe, fittings, sheets and rods. For complete data on properties, resistance to more than 300 chemicals, etc., write for technical booklet 80-3.

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BUSINESS MEN'S EXPECTATIONS

FIRST QUARTER 1957

Here are the opinions of 1,593 representative business executives interviewed recently by trained Dun & Bradstreet reporters.

EXPRESSING little anxiety over the possible outcome of the elections, the executives of 1,593 representative businesses, interviewed in early October, were usually optimistic about their sales and profits prospects for the early part of next year. Some 94 per cent of them thought that their net sales and net profits in the first quarter of 1957 would be as high as, or higher than, a year ago.

Although retail sales have increased at a comfortable pace so far this year, retailers expected a rise in volume considerably less frequently than either the manufacturers or wholesalers. But those retailers expecting an increase in sales were seven times as numerous as those expecting a decline.

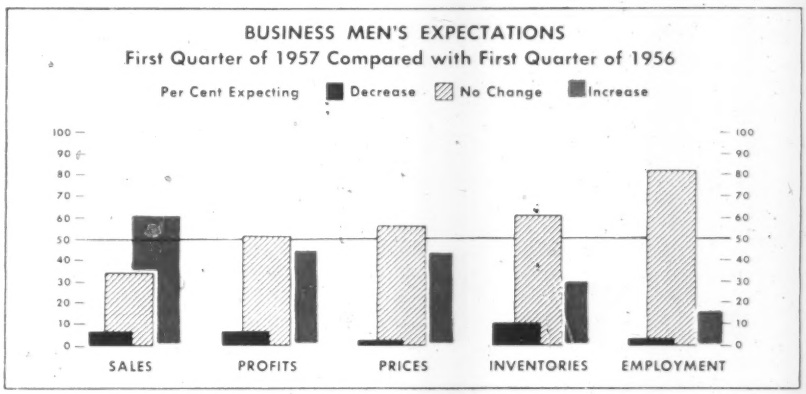
Inflation may account for some of the increase in the dollar volume of sales. For every executive who thought that his company's selling prices might be reduced in the first quarter of 1957, there were 21 executives who expected their companies to have raised their selling prices. Retailers expected "no change" in their selling prices more frequently than did the other business men.

While the weight was on the side of a year-to-year increase in business inventories in the first quarter of 1957, retailers may expand their stocks less frequently than either manufacturers or wholesalers. Trade inventories at the time of this expectations survey were slightly below the levels in the first quarter of this year, contrasting with the noticeable expansion in manufacturers' inventories (take a look at the Compass Points 27, 28, 29, page 26).

Some 34 per cent of the manufacturers of durable goods expected that their inventories in the first quarter of 1957 would exceed the year-ago level, and 56 per cent of them expected an enlarged volume of new orders.

That their orders would be unchanged from last year's high level was expected by 37 per cent of the manufacturers of durable goods, 44 per cent of the manufacturers of non-durables. Manufacturers' orders spurted this Fall to a level about 5 per cent above the first quarter.

Although there will probably be the usual seasonal dip in employment in the first quarter of 1957, a year-to-year gain seems likely. That they would need more employees than in the first quarter of 1956 was expected by 26 per cent of the manufacturers of durable goods, 15 per cent of the manufacturers of non-durables, 11 per cent of the wholesalers, and 8 per cent of the retailers. The large majority (82 per cent) of all business men thought that they would need at least as many workers on their payrolls as a year ago.



THE FIRST QUARTER OUTLOOK

A Comparison of 1956 with 1957

Percentage Breakdown of Opinions Expressed

	ALL CONCERNS			MANUFACTURERS			WHOLESALERS			RETAILERS		
	Increase	Unchanged	Decrease	Increase	Unchanged	Decrease	Increase	Unchanged	Decrease	Increase	Unchanged	Decrease
SALES	60	34	6	63	32	5	63	32	5	49	44	7
PROFITS	43	51	6	46	48	6	44	51	5	34	60	6
PRICES	42	56	2	40	58	2	46	51	3	39	60	1
INVENTORIES	29	61	10	31	58	11	30	63	7	23	62	15
EMPLOYMENT	15	82	3	20	76	4	11	86	3	8	86	6
NEW ORDERS	..	..	..	55	41	4	..	..	..	..	..	..

Maximum protection for Army Signal Corps dry cell batteries is provided by a kraft-paper carton covered by a sealed Polyethylene bag. "Eveready" Batteries are manufactured and packaged by **National Carbon Company,** A Division of Union Carbide and Carbon Corporation, New York 17, N.Y.

Polyethylene package helps

Batteries keep longer, safely

Film made of BAKELITE Brand Polyethylene has solved the problem of packaging dry batteries for military use. According to the Army Signal Corps, "Polyethylene film was chosen over other materials for this application because it permits the escape of hydrogen gas produced by the aging batteries and prevents the passage of moisture into the inner package." Formerly, tight sealing of packages kept in the gas and created an explosion hazard. The unique properties of Polyethylene film, a barrier to moisture that transmits hydrogen gas and resistant to chemicals, makes this package safe and sealed!

No doubt about it. Packaging in film made of BAKELITE Polyethylene offers many unusual advantages to manufacturers . . . as a package, wrap, pouch or bag, or drum and container liners. The product is easy to see, shelf life is excellent. The film is tough, resists tearing and won't crack. Investigate the possibilities for your products today. Call your packaging supplier, or write for our "Chemical Packaging" booklet to Dept. QZ-42.

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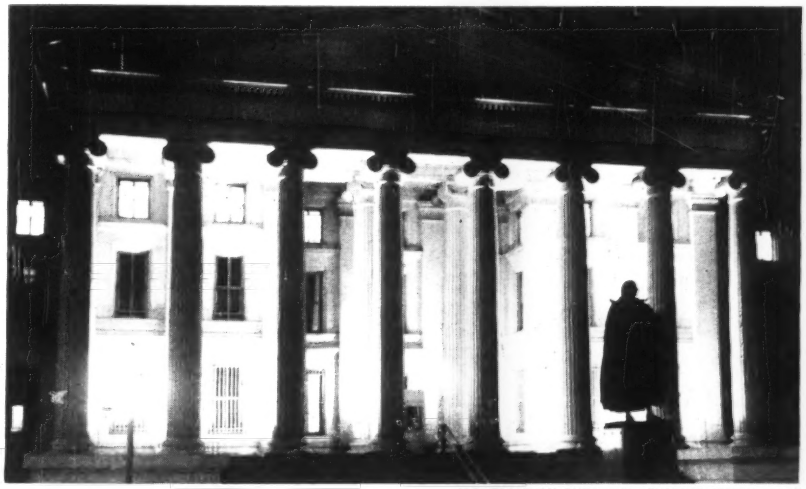

U.S. TREASURY BUILDING—CUSHING PHOTOGRAPH

NEW LEGISLATION: OUR MAJOR NEEDS; THE POLITICAL ROLE OF BUSINESS

Top management views on major topics of the day as reported to Grover Amen.

What do you feel are the areas most in need of legislation by the incoming Congress?

HARRY A. BULLIS

Chairman of the Board, General Mills, Inc.

Congress should address its best efforts, in my opinion, to two major areas which are vital to the continued strength and progress of the economy.

The first has to do with sound money and the regularization and stabilization of long-term credit. The Federal Reserve System is today performing most admirably through its power to control banking reserves, and through that power to control all forms of bank credit. Long-term credit is another area vitally important to the stabilization of capital formation, upon which our economic growth depends. Congress should, therefore, study all the agencies operating in the area of long-term credit and pass appropriate legislation, looking toward the needs of the future for financing economic growth. In this area, the lender must have confidence that the repayment dollars he receives in the future will have purchasing power equal to that of the dollars he lends.

The second area has to do with a review of the tax structure.

The fiscal power of the Federal Government is our strongest weapon for the defense of the free world. It is the greatest single power for promoting stability in the domestic economy and encouraging the growth of free enterprise. To this end, tax reform should stimulate saving for the purpose of investing in equities and risk-taking ventures—the lifeblood of free enterprise. Fiscal policies should control both expenditures and taxation, with surpluses to be used wisely as circumstances demand—for the reduction of the national debt when inflation threatens, or for tax reduction in the areas where it will encourage economic growth.

more comments on page 18

FACTS

about "THE CHALLENGER" BIG JOE and IBH*

THE CHALLENGER is a ruggedly built, electrically operated hydraulic 1000 lb. lift truck.

It is built by BIG JOE Manufacturing Co. . . . manufacturer of a complete line of over 40 IBH® lift trucks. Although guaranteed the finest quality materials and workmanship money can buy, it is the only battery operated lift truck priced under $500.

THE CHALLENGER is an ideal IBH® tool — "In Between Handling" the short distance hydraulic manipulation of materials too heavy for manual handling yet not requiring high priced power-driven equipment.

Only BIG JOE lift trucks carry the "IBH" label—because BIG JOE originated and have continuously built the complete line of all "In Between Handling" equipment. Any one man can operate THE CHALLENGER . . . it is easy to push . . . effortless to raise, lower and spot loads.

It is ideally suited for FLEET OPERATION in large plants . . . and for the entire materials handling job in small plants.

A single CHALLENGER in each department pays for itself quickly *by just being available when needed.*

CHECK THESE ADVANTAGES

- Complete Bearing Control Throughout
- Self-Aligning Dual Floor Brakes Actuate on Uneven Floors
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- Throttle Valve Control Assures Smooth Accurate Stops

DEMONSTRATION

The Challenger can be demonstrated in your plant without obligation.

Write for BIG JOE's IBH® Handbook which shows how to solve your In-Between Handling Problems.

HYDRAULIC HANDLING FOR EVERY DEPARTMENT

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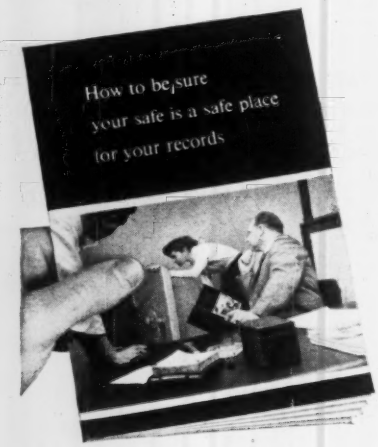
"How to be sure your safe is a safe place

FOR YOUR RECORDS"



NEW 24-PAGE MOSLER BOOKLET TELLS YOU

- what makes some safes dangerous
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PERRY M. SHOEMAKER

President, New York Chamber of Commerce
President, Delaware, Lackawanna & Western Railroad Company

I feel that all national legislation has an impact on business and industry and should command the attention of thoughtful business men. I believe that seven subjects should receive high priorities for action by the new Congress:

1. *Farm surpluses.* This staggering problem must be met by prompt and effective legislation.

2. *Civil service.* Methods of selecting and supervising government personnel should be improved.

3. *Federal fiscal control.* The recommendations of the Second Hoover Commission calling for performance budgeting and adequate spending control should be effected.

4. *Transportation.* The government's policies and machinery for transportation regulation should be modernized.

5. *Federal income tax policy.* A fundamental re-appraisal of income tax policy is long overdue.

6. *Foreign economic aid.* A long-range federal policy and program is much needed.

7. *Veterans' benefits.* This ticklish and politically loaded subject requires dispassionate re-evaluation.

I believe there must also be continuing emphasis on decentralization of government. So far as possible, responsibility for administering necessary programs should be returned to state and local governments.

EDWARD McSWEENEY

Vice President and Treasurer, Perkins-Goodwin Co.

My choice of the three most important areas requiring legislation by the new Congress would be: foreign aid; small business; and, more broadly, taxation.

From the external standpoint, Congress must help establish a positive, long-range program for helping our friends around the world improve their standards of living. Undoubtedly at least a partial solution to our problem of agricultural surpluses would be found within a sound foreign aid program.

On the domestic front, Congress must define the future relationship between small and big business. If it develops that small business needs help to survive, Congress must be ready to provide it quickly.

Whatever solution the new Congress comes up with for these problems, it must never forget this fact for one moment: that if we are to keep our defenses up, give foreign aid, take care of our expanding needs in the areas of health, education, and welfare, everything must be weighed in relation to the tax burden and its possible effect of killing incentives essential to our free enterprise system.

ERNEST G. SWIGERT

President, Hyster Company

Over a long period of years, particularly in the 1930's and 1940's, the Federal Government built up a multi-billion dollar system of government-owned enterprises competing directly with tax-paying private business.

The number and variety of government-manufactured products reached truly incredible proportions. They ranged from TVA electric power to rum, rope, fertilizer, spectacles and —believe it or not—false teeth.

Some progress has been made in recent years toward correcting this situation, but we're nowhere near out of the woods yet. Uncle Sam is still the largest insurer, lender, tenant, land holder, owner of grain, warehouse operator, shipowner, truck fleet operator, and owns a near-monopoly on patents pertaining to peaceful uses of atomic power.

About 1,000 business activities, the Hoover Commission estimates, remain to be closed and turned over to private enterprise.

I believe legislation separating such activities from government operation, consistent with national security, would result in a substantial reduction of the national debt, a lowering of the tax burden, and a basic re-affirmation that we are still a free enterprise nation.

part two on page 20

It's New...It's Fast...It's Elegant

Monroe Velvet Touch 800 Adding Machine The new colorful Monroe "800" gives your business the unmistakable forward look—provides the "touch of velvet" that makes *anyone* a figuring expert. Its beauty of design and advanced precision keyboard bring gracious décor and streamlined efficiency to the truly modern office.

Under this distinctive case is a mechanism built to endure for years to come.

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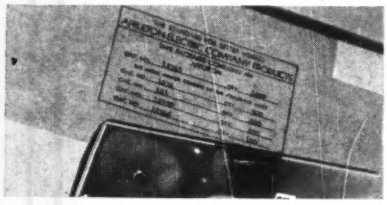
Good way to address cartons

You can print facsimile labels directly on cartons. Saves cost of labels. Faster than stencilboards. It's called the Weber Facsimile-Label System.

Here's a fast, systematic way for addressing multiple shipments. In one easy motion, you can imprint both a facsimile label and customer's address directly on a carton. 30 to 40 cartons can be addressed in a minute. No labels to type or apply; no ink brushes and stencilboards to wield. Facsimile labels are sharp and clear, yet can be easily blocked out for re-handling by consignee.

All that's needed is a Weber handprinter and Kustom-Kut stencil. Stencils are die-cut with facsimile of your label. All you do is type the customer's address on the stencil and attach to the printer. Fast, neat, systematic and inexpensive. Write for full details on the Weber Facsimile-Label System.

Good for product identification marking too.



Weber marking systems

Division of Weber Addressing Machine Co., Inc.
Mount Prospect, Illinois

DEALER SALES AND SERVICE IN ALL PRINCIPAL CITIES

FREE BULLETIN
on Weber-Facsimile Label System. Just mail this coupon.

WEBER MARKING SYSTEMS
Dept. 3K
Mount Prospect, Illinois

Company_____

Individual_____

Position_____

Address_____

City_____ Zone____ State_____

How effective a role do you feel business actually plays on the political front?

WILLIAM H. FRANK

President, BullDog Electric Products Co.

Business men aren't good politicians. Therefore it's not a question of whether business men are playing enough of a role in politics—it's basically a question of what role they should play.

Particularly during and since the Depression, business men have been the public scapegoats of politicians. I think no one will quarrel with the conclusion that a business man, even an ex-business man, has two strikes against him if he attempts to compete against a career politician for an elective office. But the career business man, particularly if he is a successful manager and organizer of men, has an effective influence on the voting attitudes of the people of his organization and residential community. He should communicate his political views to them just as he presents his business and community beliefs. Then he will play his most effective political role with these people and thus upon politics in general.

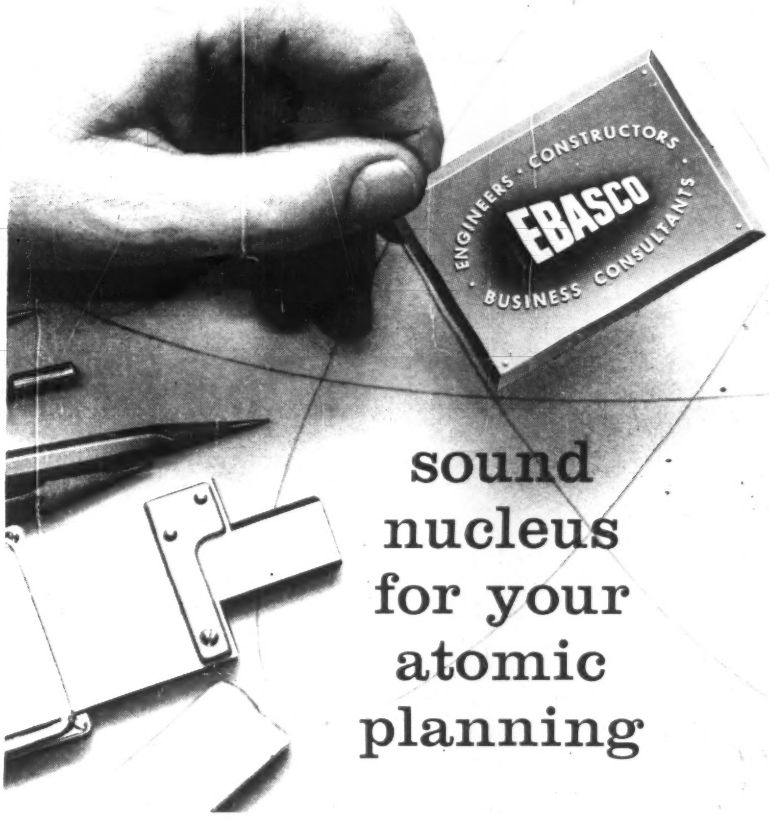
JOHN S. KEIR

President, Dennison Mfg. Company

In my opinion the majority of business men play their full part as responsible citizens. Good citizenship is a recognized part of business practice if for no other reason than that it is good business.

In the heat of a political year there is a tendency for some business men to criticize executives with major responsibilities for not taking a sufficiently active part in political activities. In the strictly partisan definition of "political" there may be some truth in this concept.

But it is not too clear that this criticism stands up under examination, within the general meaning of "politics." The functioning of government is a factor with which every



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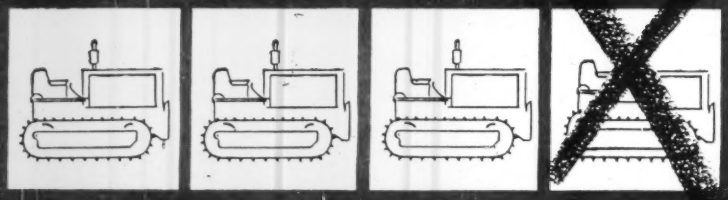
With men who know converters best... it's Twin Disc 3 to 1!



For years, the construction industry has been the "proving ground" for heavy equipment. And the *toughest* jobs, under the severest conditions, have constantly been assigned to crawler tractors. That's why men who built and used crawlers were among the first to recognize the advantages of torque converter drive . . . and *are* the men who know converters best.

Today, the four manufacturers of the most powerful crawler tractors available all have torque converter equipped models. Of these, *all three of the "Big 3" volume producers*—Allis-Chalmers, Caterpillar and International Harvester—have special torque converter transmissions, in which they *standardize* on Twin Disc Torque Converter Components.

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TWIN DISC
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executive has to concern himself.

There are all degrees of political participation, and the extent to which any individual executive applies himself to it depends upon the community in which he lives, his individual temperament, and the agencies and channels of expression which he considers appropriate. The point is that almost no executive fails to see the problem and almost none ignores it.

HARRY WHITE

Executive Secretary, Sales Executive Club of New York

Let's face the facts. Whether it's "right" or not, executives and politics seldom mix well. While top management appears to favor the idea of executives taking a more active part in politics, the truth is that they rarely encourage it within their own companies.

The executive, regardless of how interested he may be in politics for personal or business reasons, nevertheless is seldom found in the meeting halls or inner councils of the political clubs. And for this fact there are sound, practical reasons:

1. An executive, particularly a sales executive, must spend much time on the road, always with his main interest frankly centered in increasing the sales and profits of his company.

2. As an executive, he is, and must be, sensitive to the foibles and motivations of his clients and prospects. Grinding an ax for any political side can lose customers faster than probably any other endeavor.

3. When the executive does believe firmly in certain legislation, or in backing a particular candidate, he generally works through his various clubs and associations, thereby burying his personal interest behind the facade of the group.

4. Finally, he runs into powerful opposition from his own upper echelon or board of directors. Corporations, for public consumption, will appear to favor their top executives being active in local, statewide, or national politics. But in actuality they believe the executive's first concern must be the interests of the corporation. What executive is going to buck this?

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Spacious and efficient, Globe-Wernicke files reduce clerical time by permitting faster and more accurate filing. Handsome styling and decorator colors boost employee morale and job-confidence . . . to say nothing of the invaluable impressions they make on your customers.

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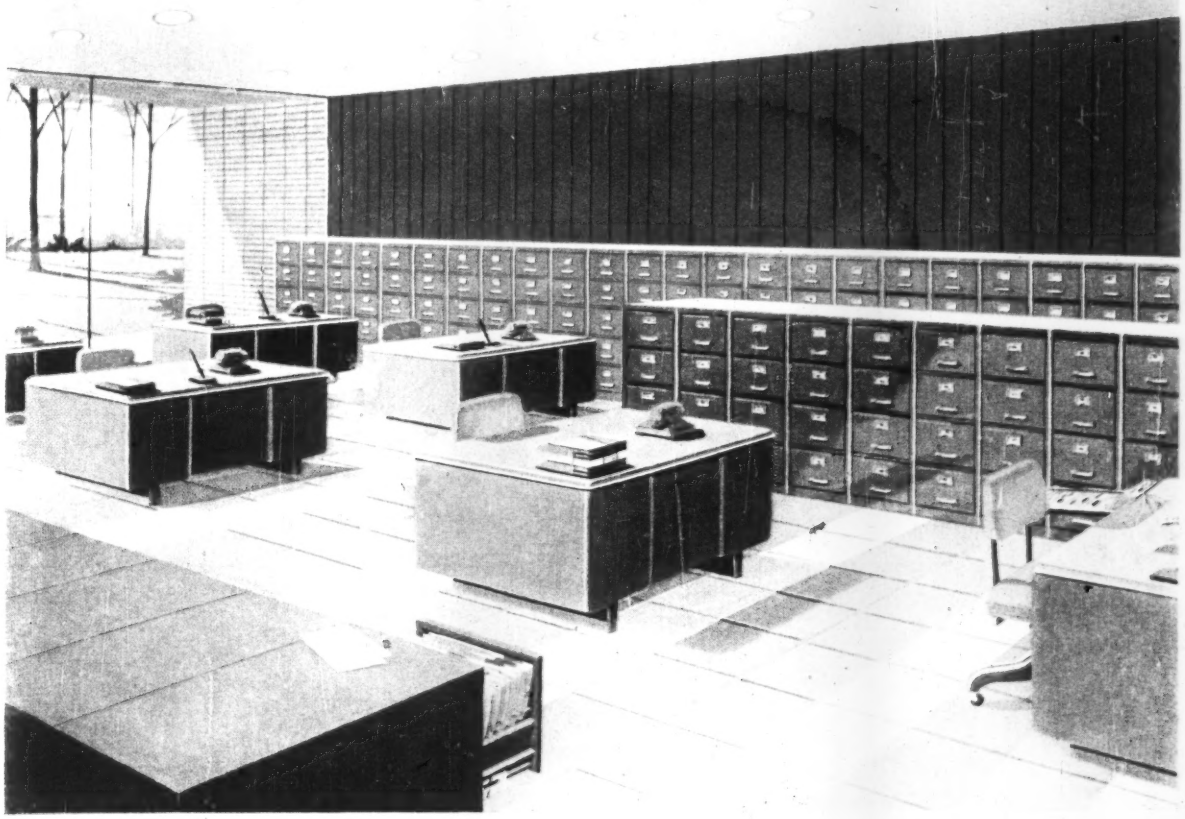

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Sunshine Styled

OFFICE FURNITURE

WORKSHOP

...but a handsome workshop to be sure... with furniture designed by Steelcase to make your working hours more productive... more enjoyable. New Steelcase Custom Line design... new two-tone styling are two more reasons why "whenever more than price is a factor... when quality, efficiency, convenience and styling are of major importance... Steelcase is consistently first choice!"

Ask your secretary... to send for the new full color Steelcase Showcase brochure on the startling new Custom Line office furniture by Steelcase. Just write Department D.

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Grand Rapids, Michigan

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- Ford Motor Company
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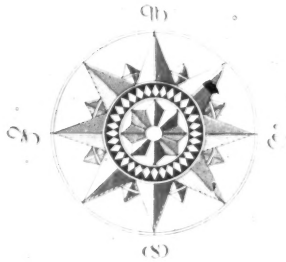
STEELCASE

THE TREND OF BUSINESS

- ***Output Rising***
- ***Steel Orders Up***
- ***Car Manufacturers Optimistic***
- ***Retailers Sell More***
- ***Jobs Increase***
- ***Inventories Stable***



COMPASS POINTS ON PAGES 26 AND 27

THE ANNUAL forecasting season opened with a rousing game of "pin the number on the GNP." While dozens of statistics helped illuminate the playing field, the ultimate accuracy of the players' aim can only be left to next year's judgment. With estimates clustering around a 3 to 5 per cent rise in the physical volume of the gross national product, the forecasters were almost invariably optimistic (see chart at right).

At conferences attended by staff members of the DUN & BRADSTREET Business Economics Department, in conversations with business men, and in the dozens of press releases crossing the editors' desks, the prevailing sentiment for 1957 was one of tempered confidence.

It is noteworthy that relatively little emphasis fell on the outcome of the November elections. People who thought there might be a loss of confidence among business men with a Democratic victory were about equally counterbalanced against those who thought that a Republican victory might reduce the confidence of labor—either way, it was felt that total spending would not change appreciably. The long-range plans for plant and equipment expenditures were usually made with careful attention to the market potential. While minor adjustments in capital spending or inventory buying might occur, most informed observers felt that they would not result from the change, or lack of it, in political administrations.

There was considerable agreement with the statement in *Challenge* magazine, published by New York University's Institute of Economic Affairs, that "there has been remarkably little controversy between Democrats and Republicans over concrete economic issues. The harsh words exchanged from time to time have not involved *what* has been done, but *how well* it has been done. And even here, it sometimes seems as if there is just as much disagreement *within* the parties as *between* the parties."

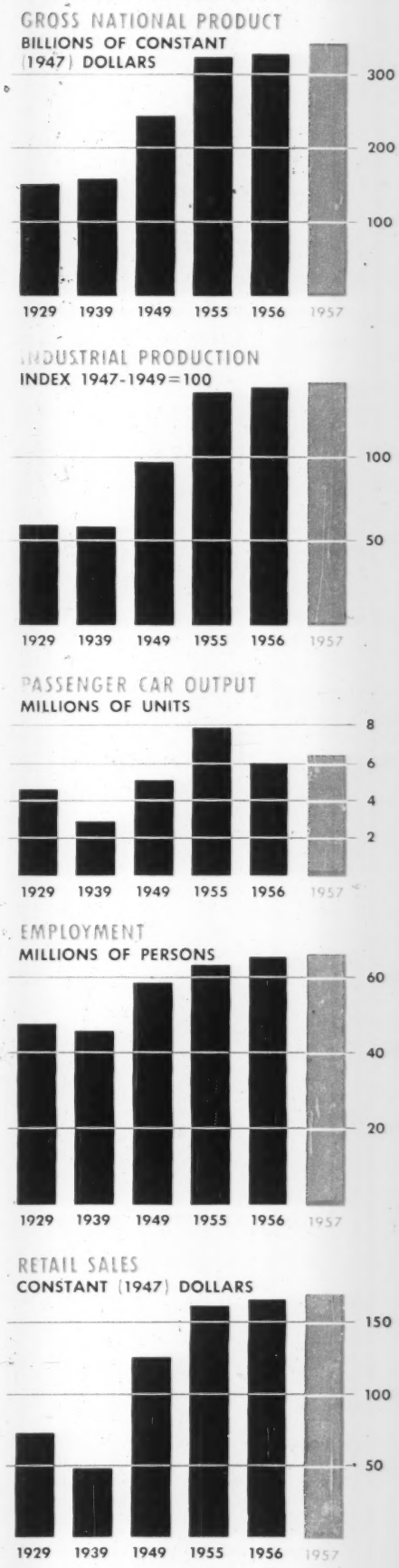
$550 billion by '65

For a year that started with big disappointments for the automobile industry and home builders, and a backlog of aggravation down on the farm, 1956 was displaying plenty of spunk. Partly because of price increases, but also because of an expansion in the unit volume of output, the gross volume of goods and services produced by the economy promised to end the year in the neighborhood of $420 billion. Compare this with the past achievements recorded in Compass Point 20, page 27.

Although he felt that the pace of expansion might slacken next year, Dr. Grover Ensley, executive director of the Joint Congressional Committee on the Economic Report, said that "the continuation of recent trends indicates the attainment of a $550 billion national economy by 1965, in terms of today's prices.

continued on page 28

WHAT'S AHEAD FOR 1957



The 1957 bars reflect the thoughts most commonly expressed to the editors by business men, economists, and Government officials, in speeches, interviews, and press conferences this Fall. Figures for 1956 are estimates based on the first nine months.

CENSUS

188 million people expected by 1965

	1 POPULATION *Millions*	2 NAMES IN REFERENCE BOOK *Thousands*
III	168.4	2,647
'56 II	167.6	2,639
I	167.0	2,643
IV	166.3	2,652
III	165.5	2,654
'55 II	164.8	2,640
I	164.2	2,644
1955	165.2	2,640
1954	162.4	2,639
1953	159.7	2,673
1952	157.0	2,643
1951	154.4	2,614
1950	151.7	2,692
1949	149.2	2,684
1948	146.6	2,555
1947	144.4	2,410
1946	141.3	2,146
1939	130.9	2,116
1932	124.8	2,077
1929	121.8	2,213
1919	105.1	1,711
1914	99.1	1,655

EMPLOYMENT

Reduction in farm jobs offset by rise in other lines; unemployment fewest in a year

	3 EMPLOYMENT Civilian *Millions*	4 EMPLOYMENT Agricultural *Millions*	5 EMPLOYMENT Nonagricultural *Millions*	6 UNEMPLOYMENT *Millions*
III	66.5	7.5	59.1	2.3
'56 II	65.2	7.1	58.1	2.7
I	62.9	5.6	57.3	2.9
IV	64.7	6.9	57.8	2.3
III	65.1	7.7	57.4	2.3
'55 II	62.8	7.0	55.8	2.7
I	60.2	5.4	54.9	3.3
1955	63.2	6.7	56.5	2.6
1954	61.2	6.5	54.7	3.2
1953	61.9	6.5	55.4	1.5
1952	61.3	6.8	54.5	1.7
1951	61.0	7.1	54.0	1.9
1950	60.9	7.5	52.5	3.1
1949	58.7	8.0	50.7	3.4
1948	59.4	8.0	51.4	2.1
1947	58.0	8.3	49.8	2.1
1946	55.2	8.3	46.9	2.3
1939	45.8	9.3	35.6	9.5
1932	38.9	9.7	28.0	12.1
1929	47.6	10.0	36.3	1.5
1919	42.0	10.5	31.5	....
1914	37.6	11.4	26.2	....

PRICES

Cost of living 2 points at above last year; wholesale prices advanced 3 per cent

	7 CONSUMERS' PRICES 1947–1949=100 *Index*	8 RETAIL PRICES 1935–1939=100 *Index*	9 WHOLESALE PRICES 1947–1949=100 *Index*	10 INDUSTRIAL STOCK PRICE AVERAGES *Dollars*
III	116.9	215.1	114.6	505.39
'56 II	115.5	210.1	114.1	497.19
I	114.6	207.8	112.4	484.31
IV	114.9	203.3	114.4	471.25
III	114.7	208.5	111.0	465.30
'55 II	114.2	207.7	110.2	428.39
I	114.3	207.4	110.2	405.86
1955	114.5	208.0	110.7	442.70
1954	114.8	208.6	110.2	333.91
1953	114.4	209.1	110.1	275.96
1952	113.5	210.4	111.6	270.76
1951	111.0	206.8	114.8	257.64
1950	102.8	189.0	103.1	216.31
1949	101.8	187.7	99.2	179.48
1948	102.8	192.7	104.4	179.95
1947	95.5	180.1	96.4	177.58
1946	83.4	155.2	78.7	191.65
1939	59.4	99.0	50.1	142.66
1932	58.4	.....	42.8	64.57
1929	73.3	120.9	61.9	311.24
1919	74.0	.....	88.1	99.78
1914	42.9	.....	43.3	81.03

SALES

Despite losses from steel strike, manufacturers' 1956 sales to hit new peak; record in domestic, foreign trade

	21 FARM RECEIPTS *Billion $*	22 EXPORTS *Million $*	23 IMPORTS *Million $*	24 RETAIL SALES *Million $*	25 WHOLESALE SALES *Million $*	26 MANUFACTURING SALES *Million $*
III	8.1	4,900	3,200	48,300	31,200	83,900
'56 II	6.0	4,893	3,112	48,010	31,050	82,941
I	6.3	4,205	3,221	43,416	29,140	81,404
IV	9.5	4,102	3,089	50,986	31,280	82,099
III	7.8	3,774	2,789	46,925	30,930	79,651
'55 II	5.9	3,887	2,776	46,824	28,570	80,015
I	6.3	3,741	2,739	40,745	26,840	75,221
1955	29.5	15,504	11,393	185,480	117,620	316,986
1954	30.0	15,059	10,205	170,664	109,291	287,707
1953	31.4	15,698	10,875	170,742	111,990	303,356
1952	32.8	15,177	10,714	164,085	112,325	276,548
1951	33.2	15,030	10,967	158,223	113,168	266,460
1950	28.7	10,275	8,852	143,689†	103,896	231,415
1949	28.1	12,051	6,622	130,721	88,252	196,997
1948	30.5	12,653	7,124	130,521	95,172	211,560
1947	30.0	14,430	5,756	119,604	87,263	191,010
1946	25.5	9,738	2,942	102,488	71,915	151,402
1939	8.6	3,177	2,318	41,042	26,244†	61,340
1932	4.7	1,611	1,323	25,013	.....	30,774
1929	11.3	5,241	4,399	48,459	37,814	70,262
1919	14.5	7,920	3,904	36,549	.....	60,509
1914	6.0	2,114	1,789	.....	.....	.....

INVENTORIES

Rate of gain in retail inventories from year ago about half that of sales

	27 RETAIL INVENTORIES *Million $*	28 WHOLESALE INVENTORIES *Million $*	29 MANUFACTURING INVENTORIES *Million $*
III	23,700	12,500	49,300
'56 II	23,510	12,370	49,295
I	24,540	12,620	47,674
IV	22,440	12,290	46,085
III	23,300	12,180	44,266
'55 II	22,840	11,520	43,976
I	23,520	11,620	43,483
1955	22,440	12,290	46,085
1954	22,090	11,562	44,017
1953	21,208	11,695	46,947
1952	20,234	11,310	44,442
1951	19,904	11,068	43,123
1950	18,699§	10,474	34,534§
1949	14,570	7,913§	29,038
1948	15,190	7,982	31,782
1947	13,372	7,613	29,032
1946	11,231	6,606	24,620
1939	5,285	3,075†	11,516
1932	.....	2,307	7,332
1929	7,298	4,024	12,775
1919	.....	.....	12,096
1914	.....	.....	.....

Footnotes

†Figures for this and prior dates are from another source and are not strictly comparable with later data.
‡Beginning in 1937 tax refunds are deducted from receipts and are not included among the expenditures.
Sources of the statistical data on page 31.

. . . . A RECORD OF BUSINESS ACTIVITY

INCOME

11 WEEKLY HOURS Indus. Workers *Hours*	12 WEEKLY EARNINGS Indus. Workers *Dollars*	13 DISPOSABLE PERSONAL INCOME *Billion $*	14 DISPOSABLE INCOME Per Capita *1955 Dollars*	15 CORPORATE PROFITS AFTER TAXES *Billion $*	
40.2	79.80	290.2*	1,691*	22.3*	III
40.2	79.06	284.9•	1,681•	22.3•	II '56
40.5	78.50	280.2•	1,673•	21.6•	I
41.2	79.24	278.4•	1,674•	23.0•	IV
40.6	76.80	273.8•	1,654•	21.5•	III
40.6	76.79	268.5•	1,629•	20.3•	II '55
40.4	74.61	260.6•	1,587•	19.7•	I
40.7	76.61	270.6	1,638	21.1	1955
39.7	71.65	254.4	1,562	16.4	1954
40.5	71.69	250.2	1,568	16.7	1953
40.7	67.97	236.7	1,522	16.1	1952
40.7	64.77	226.1	1,512	18.7	1951
40.5	59.33	206.1	1,513	22.1	1950
39.2	54.92	188.2	1,418	15.8	1949
40.1	54.14	187.6	1,424	20.3	1948
40.4	49.97	169.0	1,406	18.2	1947
40.4	43.82	159.2	1,548	13.4	1946
37.7	23.86	70.4	1,037	5.0	1939
38.3	17.05†	48.7	765	−3.4	1932
44.2	25.03	83.1§	1,066§	8.3§	1929
46.3	22.08	63.5	935	5.7	1919
49.4	11.01	33.2	893	1.9	1914

PRODUCTION

16 INDUSTRIAL PRODUCTION (PHYSICAL) *Index*	17 ELECTRIC POWER PRODUCTION *Billions kwh*	18 BUILDING PERMITS 120 Cities *Million $*	19 EXPENDITURES FOR PLANT & EQUIPMENT *Billion $*	20 GROSS NATIONAL PRODUCT *Billion $*	
145*	170.4	1,379	9.6	414.0•	III
142*	166.6	1,296	8.9	408.5•	II '56
142*	170.1	757	7.5	403.4•	I
144*	166.3	993	8.4	401.9•	IV
140*	161.7	1,191	7.4	396.8•	III
138*	149.0	1,309	7.0	387.4•	II '55
133*	147.8	1,708	5.8	377.3•	I
139	624.8	4,571	28.7	390.9	1955
125	544.6	4,143	26.8	360.7	1954
134	516.5	4,034	28.3	363.2	1953
124	463.1	3,523	26.5	345.2	1952
120	432.3	3,654	25.6	328.2	1951
112	388.7	4,466	20.6	285.1	1950
97	345.6	3,131	19.3	257.3	1949
104	336.8	3,111	22.1	257.3	1948
100	307.4	2,470	20.6	232.2	1947
90	269.6	2,089	14.8	209.2	1946
58	161.3	1,029	5.5	91.1	1939
31	99.4	336	2.6	58.5	1932
59	116.7	2,490	9.2	104.4§	1929
39	.....	1,181	....	77.9	1919
33	.....	735	....	38.5	1914

FEDERAL

30 FEDERAL RECEIPTS *Million $*	31 FEDERAL SPENDING *Million $*	32 GROSS FEDERAL DEBT *Billion $*	
16,400	16,900	275.0	III
25,243	17,637	272.8	II '56
24,572	15,623	276.3	I
28,979	16,178	280.8	IV
15,117	16,947	277.5	III
22,339	17,337	274.4	II '55
21,876	15,667	274.0	I
60,390	65,570	280.8	1955
64,655	67,772	271.3	1954
64,825	74,274	266.1	1953
61,393	65,410	259.1	1952
47,568	44,058	255.2	1951
36,495	39,606	257.4	1950
37,696	39,507	252.8	1949
41,488	33,069	252.3	1948
39,787	39,033	258.3	1947
39,772	64,448	269.4	1946
4,996‡	8,858‡	40.4	1939
1,924	4,659	19.5	1932
3,861	3,127	16.9	1929
5,085	18,448	25.5	1919
735	735	1.2	1914

FINANCE

33 CONSUMER CREDIT Outstanding *Billion $*	34 LOANS OF COMMERCIAL BANKS *Billion $*	35 CURRENCY OUTSIDE OF BANKS *Millions $*	36 DEMAND DEPOSITS ADJUSTED *Million $*	37 INTEREST ON BUSINESS LOANS *Per cent*	
37.8	87.8	27,600	105,800	4.20	III
37.1	87.7	27,500	105,100	4.14	II '56
35.5	84.7	27,200	104,400	3.93	I
36.2	82.8	27,900	109,914	3.93	IV
34.3	78.4	27,200	104,900	3.77	III
32.5	75.4	27,375	103,234	3.56	II '55
29.9	72.3	26,700	102,400	3.54	I
36.2	82.8	27,900	109,700	3.70	1955
28.5	70.6	27,400	106,900	3.55	1954
28.9	67.6	28,091	103,300	3.69	1953
25.8	64.2	27,494	101,500	3.50	1952
21.5	57.7	26,315	98,234	3.10	1951
20.8	52.2	25,398	92,272	2.70	1950
17.1	43.0	25,415	85,570	2.70	1949
14.4	42.5	26,079	85,520	2.50	1948
11.6	38.1	26,476	87,121	2.10	1947
8.4	31.1	26,730	83,314	2.10	1946
7.2	17.2	6,401	29,793	2.10	1939
3.6	21.8	4,669	15,728	4.71	1932
6.4	35.7	3,557	22,809	5.83	1929
....	22.4	3,593	17,624	6.58	1919
....	13.2	1,533	10,082	....	1914

FAILURES

38 BUSINESS FAILURES *Number*	39 LIABILITIES OF FAILURE *Million $*	
3,051	143.0	III
3,254	144.8	II '56
3,242	134.7	I
2,772	119.2	IV
2,571	101.7	III
2,772	107.3	II '55
2,854	121.1	I
10,969	449.3	1955
11,086	462.6	1954
8,862	394.2	1953
7,611	283.3	1952
8,058	259.4	1951
9,162	248.3	1950
9,246	308.1	1949
3,252	234.6	1948
3,476	204.6	1947
1,130	67.3	1946
14,768	182.5	1939
31,822	928.3	1932
22,909	483.3	1929
6,451	113.3	1919
18,280	357.9	1914

•Annual rate seasonally adjusted.
*Quarterly figures seasonally adjusted.
‡Series revised from this date.
First quarter figures for most series are based upon preliminary estimates and incomplete data.

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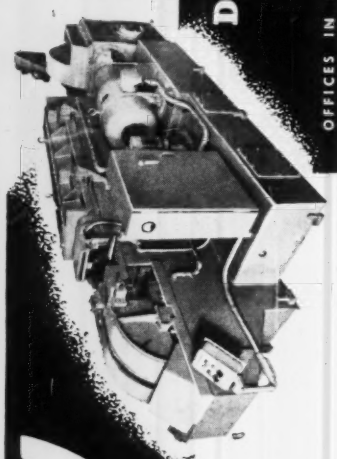

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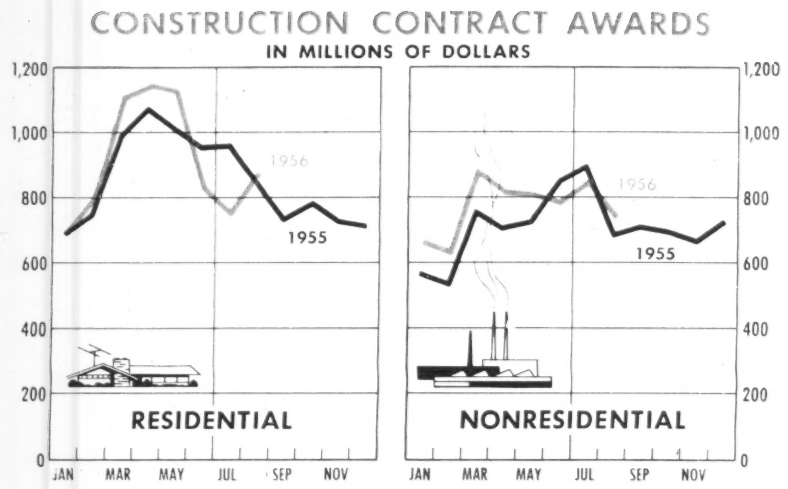


Contract awards for future construction in the first eight months of 1956 were at record levels for both residential and nonresidential building. Although the number of housing units contracted for was down in August, the dollar volume was 5 per cent above a year ago. Nonresidential awards were 10 per cent higher than in August 1955. Awards tend to precede by several months the actual construction. F. W. Dodge Corporation data.

Steel orders to rise

Manufacturers of steel frequently expected an enlarged volume of orders in 1957 from such good customers as the automobile, machinery, container, railroad, shipbuilding, construction, and gas and oil drilling industries. Steel production in September and early October was fully recovered from the July strike. Averaging 2.5 million net tons a week, ingot output in early October was more than 7 per cent higher than a year ago. Because of the tonnage lost in the strike, steel output for 1956 as a whole is expected to fall from 2 to 4 million tons below 1955's record 117 million tons. Early estimates peg 1957 output at something between 115–120 million tons. No shortages are expected in steel in 1957, although some strain may persist in the supply of the heavier products.

Construction peak sustained

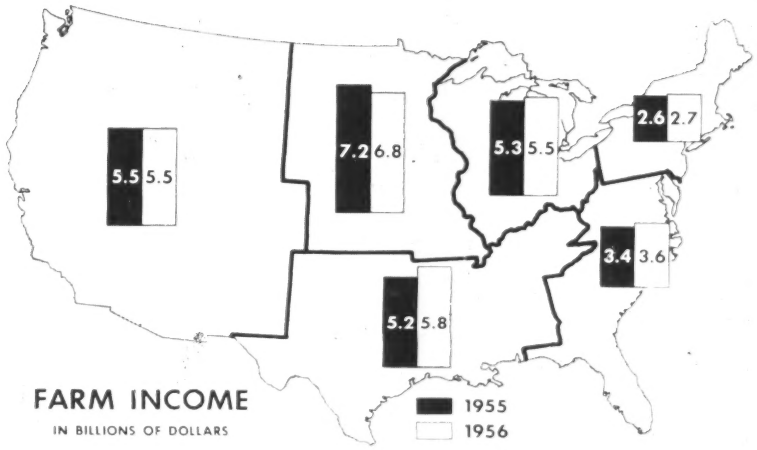
Another booming year appears in store for construction, with high rates of commercial and industrial building and public works construction offsetting the slackness in housing. Judging by the number of privately owned housing starts in the first nine months of 1956, the year's total will probably amount to 1.1 million units, a drop of about 16 per cent from 1955.

The dollar volume of dwelling units put in place in the first nine months of 1956 was 11 per cent below the 1955 level, a smaller loss than is implied in the unit figure, reflecting that today's houses are somewhat more costly than those built last year. The trend toward fewer, more expensive units is expected to continue in 1957, although starts are thought unlikely to drop below 1 million units. The all-time peak in home building occurred in 1950, when the number of privately financed housing starts, at 1,352,200, slightly exceeded 1955's total.

Although spending for all kinds of new construction dropped in September, the decline was considered appropriate to the usual seasonal pattern. The value of new construction put in place in September was above the year-ago level for the sixteenth consecutive month.

6.5 million new cars

Spokesmen for various segments of the automobile industry talked optimistically of the 1957 sales prospects. The most frequent estimate was that sales volume would support the production of about 6.5 million new cars in 1957, a gain of about 10 per cent over the 1956 level. The most optimistic forecasters thought that 1957 output might break through 1955's record 7.2 million production level. Any who thought that there might be another decline in auto-



Higher this year than last in four of the six regions, farm income from the marketings of crops and livestock for the nation as a whole is about 2 per cent above that in 1955. Less fortunate than their counterparts in other areas, the farmers in the West North Central States suffered a loss of about 5 per cent in income, although they still were producing more than a fourth of the national total. 1956 estimates based on nine months.

mobile production were apparently maintaining a golden silence.

Automobile production was scheduled for a pickup in October. The extensive model changeovers required drastic curtailments in output in September; output dropped to a low of 235,000 units. Dealers' stocks of 1956 models were pared to less than 500,000 units and dealers were experiencing little difficulty in cleaning them out.

Retail trade gains

While not expected to trigger a marked expansion in the over-all level of business in 1957, moderate gains in consumer spending for goods and services may be a natural accompaniment to the unprecedented levels of employment and income.

The improved consumer buying of automobiles was reflected in the sales estimates for August and September, although volume still was below last year's level. For retail trade over-all, gains from last year were sustained. Retail stores sold roughly 4 per cent more than a year ago in the first half of October, according to spot reports from DUN & BRADSTREET offices in 66

REGIONAL HIGHLIGHTS . . .

August bank debits to demand deposit accounts in NEW ENGLAND rose to a new high for the month; there was a gain of 14 per cent over last year.

While September business failures were fewer than last year in the WEST NORTH CENTRAL and NEW ENGLAND States, sizeable increases were reported in the other seven regions; the sharpest rises prevailed in the MOUNTAIN, SOUTH ATLANTIC, and WEST SOUTH CENTRAL States.

Toll collections on the NEW JERSEY Turnpike for the first nine months of this year were 12 per cent higher than the comparable 1955 level, and traffic was up by 16 per cent.

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Knowledge of this Commercial Financing Plan may make it possible for you to take advantage of business opportunities that might otherwise be missed. For additional facts, contact the nearest COMMERCIAL CREDIT CORPORATION office listed here. BALTIMORE 1: 200 W. Baltimore St. CHICAGO 6: 222 W. Adams St. LOS ANGELES 14: 722 S. Spring St. NEW YORK 17: 100 E. 42nd St. SAN FRANCISCO 6: 112 Pine St. Just say, "Send me more information about the plan described in *Dun's Review & Modern Industry*."

COMMERCIAL CREDIT COMPANY'S subsidiaries, during the past year, advanced over one billion dollars to manufacturers and wholesalers to supplement their cash working capital. The total volume of its finance subsidiaries amounted to over three and one half billion dollars.

Capital and Surplus over $190,000,000

cities. Regionally the changes from last year varied from a dip of 1 or 2 per cent in the Pacific Coast area to rises of 5 or 6 per cent in New England, the East, and the Middle West.

Calling lazy girls

Employment, which customarily rises in the Summer months, scaled new heights this year and unemployment was very low, notwithstanding the reduced activity at the automobile plants (Compass Points 3–6, page 26). The number of major employment centers with a substantial labor surplus in September was smaller than last year, while the number of areas with more job openings than candidates increased. There were more than twice as many areas with a need for additional workers as there were with concentrated unemployment. This situation was expected to persist into the early part of 1957.

The help-wanted advertisements in many of the metropolitan daily newspapers offered peak rates of pay for inexperienced office help. A sign of the times was this plea for a receptionist in *The New York Times*: "Handsome boss, lazy girl's opportunity."

Income expands

Running about 7 per cent above a year ago, personal income in the first nine months of 1956 was at a record rate. The upward push in wage rates promised further gains for the remainder of the year (Compass Points 11–14, page 27).

Agricultural income continued to advance, moderately exceeding the year-ago level. There was further relief for the farmers in the form of high domestic consumption of agricultural products, increased exports, and the Soil Bank program.

Exports of agricultural products will probably reach a record in 1956, may move on upward in 1957, since Government funds earmarked for foreign assistance programs remain large. The Soil Bank program will undoubtedly help to reduce surpluses of some of the major farm commodities.

The farmer's income situation has improved steadily this year, although it remains considerably less favorable than in the peak year of 1951 (Compass Point 21, page 26).

Though smaller than in 1956, the 1957 carryover will probably be large, even with the Soil Bank. Agriculture has been for some time in the throes of a technological revolution which adds about 5 million acres a year to cultivation.

After allowance for increased farm production expenses and changes in farmers' inventories, total net agricultural income in the first half of 1956 was about 5 per cent below that in the corresponding period of 1955.

Balancing inventories

A few words of caution were addressed by the Federal Reserve Bank of New York to those business men who might be tempted to enlarge their inventories speculatively, in anticipation of higher prices, rather than with a realistic appraisal of their markets. In its monthly letter for October, the bank stated, "Since the expectations of higher prices are often subject to sudden reversal, particularly abrupt shifts from accumulation of inventories to liquidation may occur when accumulation has depended to an important extent on speculative motives. These shifts, in turn, are prone to touch off cumulative forces leading to recession in the economy at large. At the same time, however, it should be recognized that some moderate growth in inventories over the long run is to be expected and is, in fact, essential to a growing economy." Business inventories in the early Fall were usually in favorable balance with sales (Compass Points 27–29, page 26).

Planning ahead

The consensus was that the momentum of all-time peak business activity in the fourth quarter of 1956 would carry over into 1957. Further moderate rises in spending by consumers, business, and the Government in 1957, coupled with a rising price level, imply further growth in the total output of goods and services.

Sources of the Statistical Data

CENSUS 1, POPULATION: *U. S. Bureau of the Census*, mid-period estimates of total population including armed forces overseas. 2, NAMES IN REFERENCE BOOK: *Dun & Bradstreet, Inc.*, annual totals from July Book, other from Book nearest the end of the quarter.

EMPLOYMENT 3, CIVILIAN EMPLOYMENT: *U. S. Bureau of the Census*, data prior to 1929 from *National Industrial Conference Board*, monthly averages of non-

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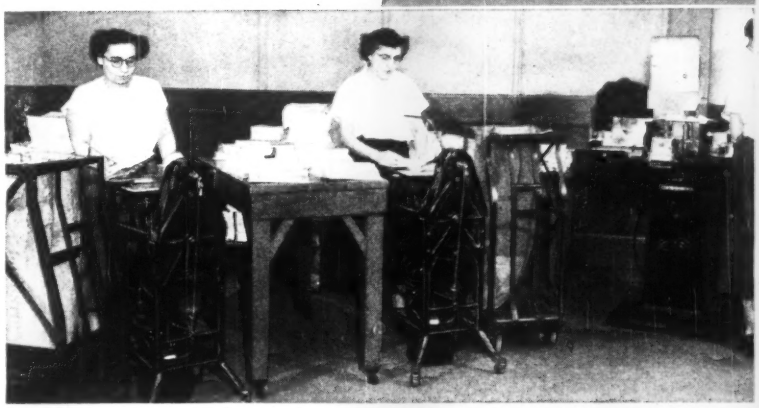

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institutional population 14 years of age and over who were at work, temporarily absent because of sickness, strike, or vacation, or with instructions to report for work within 30 days—4. AGRICULTURAL EMPLOYMENT: *U. S. Bureau of the Census*, data prior to 1929 from *National Industrial Conference Board*, monthly averages of those employed in agriculture—5. NONAGRICULTURAL EMPLOYMENT: *U. S. Bureau of the Census*, data prior to 1929 from *National Industrial Conference Board*, monthly averages of those employed outside of agriculture—6. UNEMPLOYMENT: *U. S. Bureau of the Census*, monthly averages of those not at work but looking for work, also includes those who would have sought work except for temporary illness, belief that no work existed, or waiting to return from an indefinite lay-off.

PRICES 7. CONSUMERS' PRICES: *U. S. Bureau of Labor Statistics*, Revised series; average cost of some 300 goods and services purchased by moderate income families, as a per cent of the 1947–1949 level—8. RETAIL PRICES: *U. S. Office of Business Economics*, based upon data collected by other Government agencies, average prices at retail stores as a per cent of the 1935–1939 level—9. WHOLESALE PRICES: *U. S. Bureau of Labor Statistics*, average wholesale prices of some 2,000 items as a per cent of the 1947–1949 level—10. INDUSTRIAL STOCK PRICE AVERAGES: *Dow-Jones & Company*, daily average of the prices of 30 industrial stocks.

INCOME 11. WEEKLY HOURS: *U. S. Bureau of Labor Statistics*, average workweek for production workers, includes hours worked on overtime—12. WEEKLY EARNINGS OF INDUSTRIAL WORKERS: *U. S. Bureau of Labor Statistics*, average for production workers before any payroll deductions, reflects length of work week and hourly earnings—13. DISPOSABLE PERSONAL INCOME: *U. S. Office of Business Economics*, personal income remaining after deduction of taxes and of nontax payments to government such as fines, licenses—14. DISPOSABLE INCOME PER CAPITA, 1935 DOLLARS: Compiled by dividing Series 13 by the items in Series 1 and adjusting results for changes in Consumers' Prices, Series 7—15. CORPORATE PROFITS AFTER TAXES: *U. S. Office of Business Economics*, total corporate profits after deducting all tax liabilities.

PRODUCTION 16. INDUSTRIAL PRODUCTION (PHYSICAL): *Federal Reserve Board*, average physical volume of manufacturing and mining output as a per cent of the 1947–1949 level—17. ELECTRIC POWER PRODUCTION: *Federal Power Commission*, total produced by utilities and industrial establishments excluding hotels, office buildings, and other commercial establishments—18. BUILDING PERMITS, 120 CITIES: *Dun & Bradstreet, Inc.*, total value of permits issued in 120 reporting cities—19. EXPENDITURES FOR PLANT AND EQUIPMENT: *U. S. Department of Commerce and Securities & Exchange Commission*, totals for private industry excluding agriculture—20. GROSS NATIONAL PRODUCT: *U. S. Office of Business Economics*, total market value of all goods and services produced by the economy before any deductions for depreciation.

SALES 21. FARM INCOME: *U. S. Bureau of Agricultural Economics*, total receipts from farm marketings, CCC loans, and Government payments—22. EXPORTS: *U. S. Bureau of the Census*, total of all merchandise—23. IMPORTS: *U. S. Bureau of the Census*, total of all merchandise—24. RETAIL SALES: *U. S. Office of Business Economics and Bureau of the Census*, data prior to 1929 from *Kuznets "National Income and Its Composition"*, total sales of all retail stores—25. WHOLESALE SALES: *U. S. Office of Business Economics*, total sales of all wholesalers—26. MANUFACTURING SALES: *U. S. Office of Business Economics*, data prior to 1929 from *Kuznets "National Income and Its Composition"*, total of all manufacturers' sales.

INVENTORIES 27. RETAIL INVENTORIES: *U. S. Office of Business Economics*, book value at end of period—28. WHOLESALE INVENTORIES: *U. S. Office of Business Economics*, book value at end of period—29. MANUFACTURING INVENTORIES: *U. S. Office of Business Economics*, data prior to 1929 from *Kuznets "National Income and Its Composition"*, book value at end of period.

FEDERAL 30. FEDERAL RECEIPTS: *U. S. Treasury Department*, annual totals are for fiscal years, quarterly totals are for calendar quarters—31. FEDERAL EXPENDITURE: *U. S. Treasury Department*, annual totals are for fiscal years, quarterly totals are for calendar quarters—31. FEDERAL EXPENDITURES: *U. S. Treasury Department*, annual figures are at end of fiscal years, quarterly figures are at end of calendar quarters.

FINANCE 33. CONSUMER CREDIT: *Federal Reserve Board*, total consumer credit outstanding at end of period—34. LOANS OF COMMERCIAL BANKS: *Federal Reserve Board*, volume of loans outstanding from all commercial banks at end of period—35. CURRENCY OUTSIDE OF BANKS: *Federal Reserve Board*, volume outstanding at end of period—36. DEMAND DEPOSITS ADJUSTED: *Federal Reserve Board*, total at end of period excluding interbank and Government deposits and cash items in the process of collection—37. COMMERCIAL LOAN RATES: *Federal Reserve Board*, annual rates on short-term loans in 19 cities including New York.

FAILURES 38. BUSINESS FAILURES: *Dun & Bradstreet, Inc.*, total number of industrial and commercial failures—39. LIABILITIES OF FAILURES: *Dun & Bradstreet, Inc.*, total current liabilities.

This is a Business Conditions Staff Report, prepared by H. Lorraine Carson, Business Conditions Editor.

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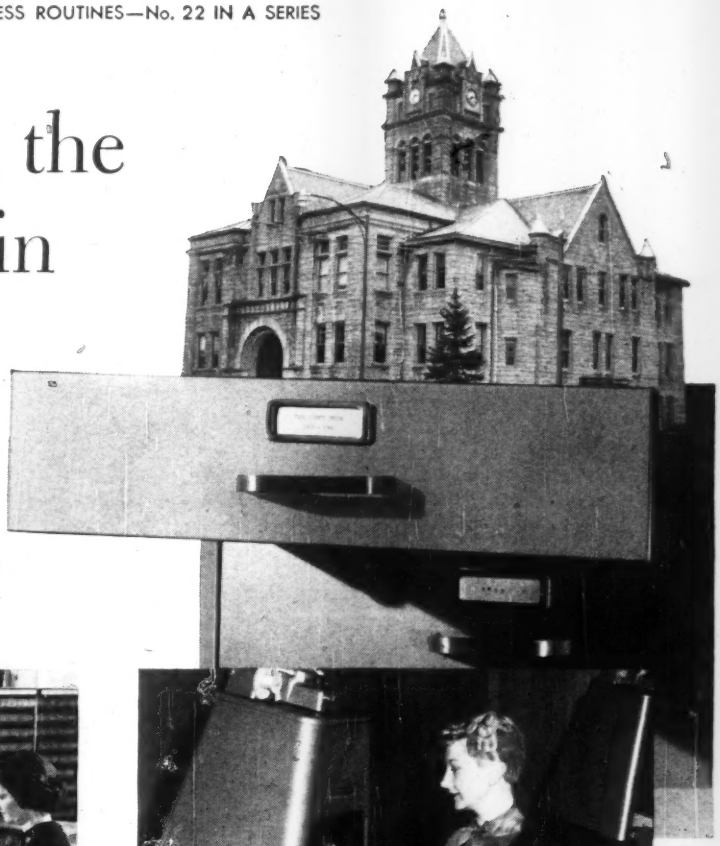

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BUSINESS FAILURES

FALLING 15 per cent in September, in accordance with the usual seasonal downtrend, business failures dropped to 932, the lowest level of the year. However, the toll represented a post-war high for the month of September; it was 13 per cent above a year ago. In fact, September casualties have been heavier only twice, in 1939 and 1940, since the depression year of 1933.

The failure rate dipped slightly to 51.4 for each 10,000 enterprises listed in the DUN & BRADSTREET *Reference Book*, according to DUN'S FAILURE INDEX. This compares with 51.7 in the preceding month. The index projects monthly mortality to an annual rate and is adjusted for seasonal fluctuations. DUN'S FAILURE INDEX was some 18 per cent higher than in September last year but remained below the prewar rate of 65 for each 10,000 listed businesses in 1940.

Liabilities Recede

Liabilities of the September casualties declined more sharply than the failures. Down 29 per cent from August to $39,313,000, liabilities were the lowest since October, 1955. Nevertheless, they exceeded by 19 per cent the volume in September a year ago. Failures of all sizes were less numerous in September than in the previous month, although a year-to-year increase prevailed among the casualties of medium size, those with liabilities between $5,000 and $100,000. Very small failures with liabilities under $5,000 and large failures with liabilities in excess of $100,000 dipped below their 1955 levels.

Three-fifths of the month's casualties were concerns in their first five years of operation; two-fifths were less than three years old. About 7 per cent of the failing businesses had started in 1956.

The September construction toll remained the same as in August, contrasting with the declines in other major industries. The smallest number of manufacturers failed since April 1953. Casualties fell off sharply in the food, paper and printing, and leather industries, while there was little change in the iron and steel and transportation equipment industries. Failures were fewer in all wholesale trades except apparel and building materials. In retailing, noticeable declines prevailed in eating and drinking places, general merchandise stores, and building materials dealers. Only three retail trades suffered heavier mortality: furniture and furnishings, automotive, and drugs. Construction had mixed trends between August and September; tolls rose among general builders but dipped among subcontractors.

Manufacturing Toll Dips

The increase from September a year ago was concentrated in retail trade and construction. Retail casualties were heavier in all lines except building materials. In fact, failures rose over 50 per cent from last year in the general merchandise, furniture, automotive, and drug trades. On the other hand, the manufacturing toll fell 17 per cent below its 1955 level, with marked declines in leather and machinery.

All geographic regions reported a dip in failures between August and September, except the Mountain States which had the same number of casualties. Failures in the New England, Middle Atlantic, and West North Central States dipped to the lowest level this year. In most individual states, slight declines prevailed; the only notable exception was Arizona where failures climbed considerably.

Seven of the nine geographic areas had more casualties than in September last year. Marked upturns from 1955 appeared in the South Atlantic, West South Central, and Mountain Regions. In the Pacific States, tolls climbed considerably in Washington and Oregon while there was a mild rise in California. In the Middle Atlantic States, a dip in New York was offset by increases in New Jersey and Pennsylvania. Only two areas had fewer failures than a year ago, the New England States, notably Massachusetts and Connecticut, and West North Central States.

Failures dipped below the preceding month in both the twenty-five large cities and the balance of the country. While the cities had the smallest number of casualties since August 1953, the decline was less

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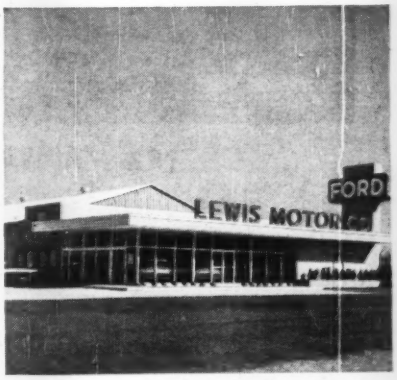

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pronounced in the non-metropolitan districts which dipped to a low for this year but exceeded by 28 per cent their toll in September 1955.

For the first nine months of 1956, failures were 17 per cent above a year ago and liabilities advanced 28 per cent. While the construction and commercial service industries had the largest gains in number, amounting to 30 per cent and 21 per cent respectively, the increases in liabilities were most pronounced in wholesale and retail trade.

Wholesale Losses Soar

Liabilities of wholesalers in the first nine months of this year were more than half again as large as in 1955, although numerically, the rise in wholesale failures, at 4 per cent, was smaller than that for any other major industry group.

The liabilities of retail failures were up 37 per cent. Losses were almost twice as large as a year ago among retailers of general merchandise, apparel and accessories, and automobiles. Both the number of failures and the liabilities involved were higher than a year ago in all lines of retailing.

Among wholesalers of food and farm products, and dry goods both the number of failures and the liabilities were somewhat below the level in the first nine months of last year. Failures among apparel whole-

THE FAILURE RECORD

	Sept. 1956	Aug. 1956	Sept. 1955	P.C. Chg.†
DUN'S FAILURE INDEX*				
Unadjusted	44.2	46.5	37.5	+18
Adjusted, seasonally	51.4	51.7	43.6	+18
NUMBER OF FAILURES	932	1101	822	+13
NUMBER BY SIZE OF DEBT				
Under $5,000	127	198	129	— 2
$5,000–$25,000	487	515	388	+26
$25,000–$100,000	245	269	227	+ 8
$100,000 and over	73	119	78	— 6
NUMBER BY INDUSTRY GROUPS				
Manufacturing	140	195	168	—17
Wholesale Trade	85	98	99	—14
Retail Trade	489	567	366	+34
Construction	146	146	114	+28
Commercial Service	72	95	75	— 4
	(*LIABILITIES in thousands*)			
CURRENT	$39,313	$55,040	$33,120	+19
TOTAL	39,820	55,363	33,348	+19

*Apparent annual failures per 10,000 listed enterprises, formerly called DUN'S INSOLVENCY INDEX.
†Per cent change, September 1956 from September 1955.

BUSINESS FAILURES *include those businesses that ceased operations following assignment or bankruptcy; ceased with loss to creditors after such actions as execution, foreclosure or attachment; voluntarily withdrew leaving unpaid obligations; were involved in court actions such as receivership, reorganization, or arrangement; or voluntarily compromised with creditors out of court.*

CURRENT LIABILITIES, *as used in The Failure Record, have a special meaning; they include all accounts and notes payable and all obligations, whether in secured form or not, known to be held by banks, officers, affiliated companies, supplying companies, or the Government. They do not include long-term, publicly held obligations. Offsetting assets are not taken into account.*

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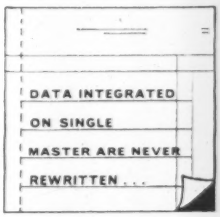

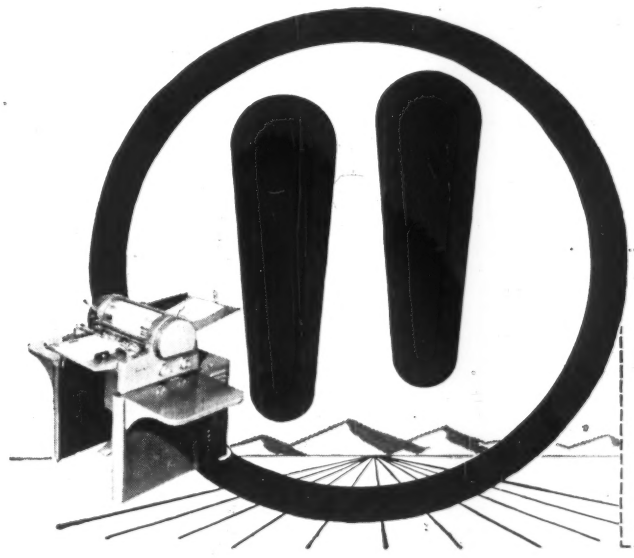

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salers were slightly fewer than in the first nine months of 1955, but liabilities were up moderately.

In five of the twelve categories of mining and manufacturing, failures in the first nine months of 1956 were fewer than a year ago. In two of the lines, leather and leather products, and machinery manufacturing, liabilities dropped noticeably, too.

Some Losses Reduced

The nine-months failure total among manufacturers of transportation equipment rose slightly, contrasting with a drop in losses. There was this same pattern, a larger number of failures with a lower volume of liabilities than last year, among the manufacturers of food and kindred products, and iron, steel, and products. In the manufacturing of chemicals and allied products, failures were slightly more numerous than last year, while liabilities multiplied almost four times.

For mining and manufacturing as a whole, the number of failures in the first nine months of 1956 was 7 per cent higher than a year ago, while liabilities were up 16 per cent.

Among commercial service establishments, the most spectacular year-to-year increase in losses occurred in hotels, where liabilities were almost three times as large as in the first nine months of 1955.

FAILURES BY DIVISIONS OF INDUSTRY

(Current liabilities in millions of dollars)	Number 9 Months 1956	Number 9 Months 1955	Liabilities 9 Months 1956	Liabilities 9 Months 1955
MINING, MANUFACTURING	1749	1635	$140.4	$120.9
Mining—Coal, Oil, Misc.	32	41	7.2	3.5
Food and Kindred Products	151	120	8.9	11.8
Textile Products, Apparel	427	376	27.1	18.2
Lumber, Lumber Products	297	239	16.9	10.0
Paper, Printing, Publishing	95	80	6.6	3.0
Chemicals, Allied Products	46	39	11.6	3.0
Leather, Leather Products	66	69	3.8	4.1
Stone, Clay, Glass Products	29	38	4.5	1.6
Iron, Steel and Products	97	89	9.2	10.3
Machinery	206	216	22.8	31.9
Transportation Equipment	41	38	3.1	3.8
Miscellaneous	262	290	18.7	19.8
WHOLESALE TRADE	929	891	59.8	39.3
Food and Farm Products	218	220	9.7	9.9
Apparel	40	49	1.8	1.8
Dry Goods	37	39	1.1	1.3
Lumber, Bldg. Mats, Hdwre.	121	101	16.4	5.2
Chemicals and Drugs	36	28	1.2	0.9
Motor Vehicles, Equipment	51	54	2.9	1.3
Miscellaneous	426	400	26.8	18.9
RETAIL TRADE	4803	4036	121.3	88.6
Food and Liquor	810	785	13.7	13.1
General Merchandise	216	146	8.2	4.3
Apparel and Accessories	914	658	23.8	13.0
Furniture, Furnishings	591	561	20.2	16.4
Lumber, Bldg. Mats, Hdwre.	282	230	8.3	6.6
Automotive Group	541	392	17.6	8.9
Eating, Drinking Places	867	733	18.0	15.3
Drug Stores	124	196	2.7	2.1
Miscellaneous	458	435	9.0	8.8
CONSTRUCTION	1298	999	70.4	57.4
General Bldg Contractors	485	320	38.4	28.3
Building Subcontractors	743	624	29.0	22.3
Other Contractors	70	55	3.1	6.8
COMMERCIAL SERVICE	768	636	30.6	24.0
TOTAL UNITED STATES	9547	8197	422.5	330.2

Liabilities are rounded to the nearest million; they do not necessarily add to totals.

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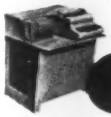

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Rich new overseas markets may be more accessible than you think, and there is more than one way of penetrating them. Companies that ignore the possibilities abroad may be passing up important opportunities for long-term gains. While some obvious difficulties exist, they are not insurmountable; in fact, some American producers have turned them to advantage. Mr. Lee analyzes the new trends in overseas business, and explains the benefits and pitfalls of the various methods of coping with them.

Hibbs Photograph

GETTING YOUR SHARE OF OVERSEAS MARKETS

New Patterns in Foreign Operations

CHARLES H. LEE, *McKinsey & Company, Inc.*

NEVER BEFORE has overseas business offered so many opportunities for important long-term gains. But companies can take advantage of them only if they recognize the changing pattern of foreign trade, and select—from many possibilities—the form of operation best suited to their individual needs.

It is true that the most recent period of facile export came to an end when European production was resumed and economic aid was discontinued. It is also true that some newcomers who were attracted to the field by the unprecedented demand for American goods after World War II are encountering obstacles. Many of them have been faced with sudden shutdowns of promising markets because of exchange shortages or government restrictions.

But the fact is that U. S. exports are currently running at a rate of over $16 billion a year, an all-time high. And if they are growing somewhat more slowly than they were a few years ago, it may be because they are no longer the principal measure of our overseas business.

At a recent Conference on Foreign Operations at the Harvard Graduate School of Business, John McCloy, chairman of the Chase Manhattan Bank and a thoughtful student of international trade, estimated that the manufacture of American products in foreign subsidiaries and branches of U. S. companies or in their affiliates and licensees may now be as high as $30 billion a year. This means that for every dollar of American goods exported, almost two dollars' worth is directly produced and marketed abroad, and total U. S. foreign business, exclusive of imports, may amount to over $46 billion.

In many cases, too, margins of profit on foreign business are higher than at home. Some companies even derive the greater part of their earnings from their foreign operations.

Published figures for 1955 disclose the importance of the foreign market to representative American companies manufacturing abroad:

Company	Total sales (Million $)	Overseas sales (Million $)	Percentage of foreign sales to total sales
Colgate	468.578	183.001	40
Singer	354.000	177.000	50
Sterling Drug..	166.930	59.142	35
Eastman Kodak.	714.443	207.400	29
Johnson & Johnson	268.354	44.642	17
Chas. Pfizer	166.930	54.100	33
Heinz	234.000	103.000	44

But the full significance of the opportunity for American business abroad is not always sufficiently appreciated. Manufacturers who have confined their foreign activities to export may put too much emphasis on obstacles.

Exchange shortages and import restrictions have led some companies to discard important and growing markets. The top management of one chemical company, for instance, is happy to be out of Argentina and Brazil. Meanwhile, its principal competitor is selling $11 million worth of goods in these two countries combined, and is planning expansion.

Fear of exaggerated nationalism leading to excessive government interference, or even expropriation, discourages other enterprises. The danger is real in some countries, particularly for activities that might be described as affected with a public interest, such as power or transportation. Closer examination, however, discloses many areas that are not threatened, even in countries where excessive nationalism prevails.

The reaction of American exporters to these difficulties has varied frequently, according to the experience they have had in the foreign field.

Companies permanently established abroad since shortly after World War I, such as some of the automobile and chemical producers, have simply modernized and expanded their existing overseas production facilities or added new ones.

Other concerns—for example, many drug companies—that had never ventured overseas except as exporters were encouraged by the tremendous postwar demand for their products abroad to evolve consistent plans for developing overseas production. When an export market threatened to close down, they worked out a way to manufacture locally. Those who have followed this program are now entrenched all over the world.

More timid companies have been discouraged from doing more than exporting whatever surplus they have had to whatever countries will take it, without regard to any long-range plan for developing permanent overseas business. In some cases they have licensed their products for local manufacture on an individual basis. Usually only companies with a spectacular new or unique product have done well on this basis.

Experience in Textiles

The shifting pattern of foreign trade is classically illustrated by the experience of the cotton textile industry. For many generations now, this pioneer industry has been moving to countries that formerly imported their cloth from England.

The same movement has affected the American textile industry. In the past, first cotton and then rayon textiles have enjoyed periods in which they sold tremendous quantities of domestic production abroad. However, except for the special circumstances created by World War II and the Korean War, textile exports have been declining. The volume of our international trade in cotton goods, for example, has lingered at about 75 per cent of the prewar level over the past ten years, in spite of the increase in world population and a substantial rise in purchasing power in most countries.

Part of this decline in textile exports, of course, is due to increasing competition from other export countries like Japan and the appearance of new export countries like India. Some of it can be attributed to the shortage of dollars in markets that would like to buy our textiles. But much of it is the natural movement of textile manufacture to countries in process of industrialization. Colombia and Cuba are rapidly increasing production for their own needs, and further reductions in export sales can be anticipated when formerly important American textile markets like the Philippines develop plans for home production.

Superficially, it looks like a dark picture. But textile companies that have appraised the situation realistically find two opportunities for expanding their overseas business:

First, as long as American innovation and research lead the industry, an interesting foreign market for new developments will probably exist, even in countries no longer generally regarded as markets. Nylon, orlon, and mixed synthetic fibers, for example, have enjoyed foreign sales limited by available foreign exchange and the establishment of foreign production.

But a more promising opportunity is the export of manufacture itself by experienced American textile concerns. Burlington Industries Inc., Celanese Corporation of America, and United Merchants and Manufacturers, Inc. are among those actively setting up local production facilities or licensing others to produce in Latin American and other markets where the most modern manufacturing equipment and methods can be introduced. When the new enterprise can obtain local supplies, it can ap-

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Modern factories in foreign lands, such as this plant in Brazil, are a symbol of industry's growing awareness of the opportunities abroad.

Since 1940 state tax collections have quadrupled, and the states' tax bite on business and individuals gets bigger every year. Pressure is mounting in state legislatures for new taxes and higher rates. Here are the facts about this trend, which has an important impact on company balance sheets.

ARE STATE TAXES TOO HIGH?

V. JUDSON WYCKOFF, *DePauw University*

THE TOTAL tax bill in this country comes to about $175,000 for every minute of the year. Putting it another way, most of us work from a half-day to two days or more out of the five every week for our three levels of government—federal, state, and local—the days of tax labor being determined by the size of our taxable income.

We are especially aware of some of these taxes: those on personal income, sales taxes added conspicuously to the purchase price, property taxes if we are owners, and death duties to be paid by our administrators. Many taxes, however, are hidden within the final prices of goods and services.

To be more specific about the taxes collected by the various levels of government: The states as a group are currently taking in between $13 and $14 billion in taxes a year, and local taxes are estimated to be about the same figure. But even these tremendous sums are small relative to the $68.1 billion in revenue in the federal budget for the fiscal year ended June 30. Add these figures, and it will be seen that state taxes are roughly 14 per cent of the all-governmental total. Yet for a number of reasons the fiscal importance of the states is greater than this percentage indicates.

One reason is that the states create their local governments, and thus determine local financial policies. Historically the states also created the Federal Government of this country, at the same time setting forth its powers. And although many of these powers have grown beyond the expectations of the founding fathers, residual political sovereignty nominally resides in the states. The preservation of such residual states' rights is closely tied to the fiscal health of the states—a weak state becomes a dependent state.

Another reason for the importance of our state governments lies in the fact that they are closer to us than the Federal Government. Easiest contacts, of course, are within the counties and cities, where we are or can be in touch with the officials. We know many of them and can offer praise or gripes on a personal basis. This personal relationship is still possible with our state governments; we can, in fact, take a fairly active part in them, even become members of the legislature without disturbing our business and home lives too much.

But the Federal Government is a different matter. It is Washington. It is 2 million employees. It is remote, entwined in procedures, very impersonal for all but a few of us.

For these reasons it is worth while to ask how the states are doing and to look over a few facts about state finances.

State Tax Collections in 1956

Tax collections for the 48 states as a group during the past twelve months showed an unusually high rate of growth. For the fiscal year ended June 30, 1956, the tax total jumped to $13.3 billion, a $1.7 billion or 15 per cent increase over 1955. Although this 1956 figure comes from a preliminary report by the Bureau of the Census, the final data will show very little change. (See *State Tax Collections in 1956*, Governments Division, Census [Washington, 1956]. This Census report and similar ones for prior years are the major sources of information for the dollar tax figures cited in this article.)

A few new taxes and some rises in rates—on motor fuels and tobacco products, for example—accounted in part for this spurt in state tax revenues. But the major cause was continued prosperity, which has been attended both by larger dollar retail sales—and, therefore, more sales-tax collections—and by larger individual and corporate (taxable) net incomes.

General sales or gross receipts taxes brought in more money than any other group of state levies, more than $3 billion all together, and nearly $600 million in California alone. Although only two-thirds of the states impose taxes on general sales (or gross receipts), and usually on the retail level, revenue from this source remained well ahead of even the next largest source, the selective sales tax on motor fuels used by all the states.

Net income taxes on individuals and/or corporations, levied by more than 30 states, brought in some $2.26 billion, and this amount—up 23.3 per cent from the previous year—reflected boom conditions. Only four states have been able to get along so far without some form of levy on net incomes or on general sales.

Interstate Comparisons

There is always considerable interest in interstate comparisons of taxes. Are the residents of New York State paying more taxes than those of New Jersey, or Ohio, or California?

It is easy enough to give per capita figures on this, but the results have to be interpreted with care. For instance in fiscal 1956 total state tax collections per person were $84 in New York, $127 in Delaware, but

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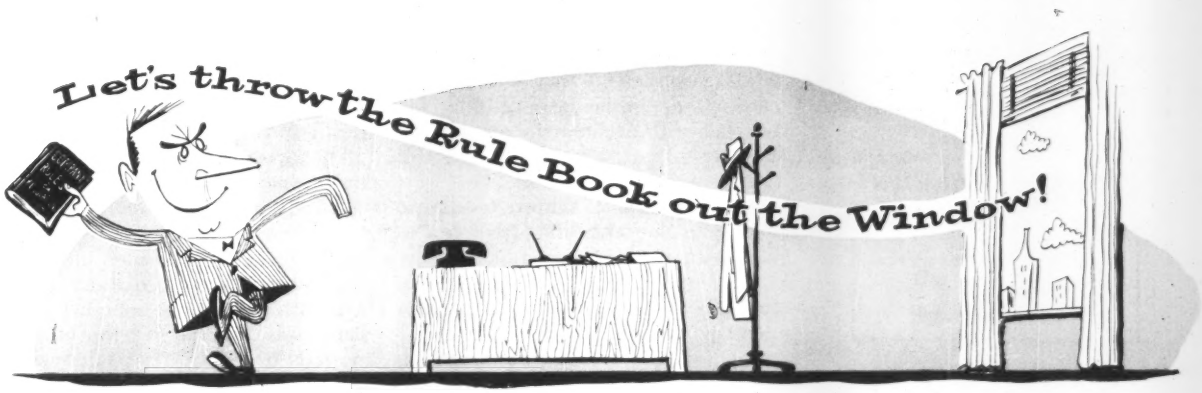


AUREN URIS, *Research Institute of America*

"YOU CAN'T DO THAT!"

EVERY AGE, continent, nation, city, home, and office has echoed to the shouts of the nay-sayers. Every problem finds them atwitter with concern lest the "rules" be violated.

To their credit, it should be said that habit and decorum are on their side. Frequently, however, success isn't.

In your quest for the efficient way, both in a general and specific sense, you may have to do what's described as tossing the rule book out the window. But more is involved than the airy phrase intimates. Your problem, actually, is to know:

1. *When*—under what conditions you should start looking for the unorthodox method.

2. *How*—so as to avoid hitting anybody on the head with the rule book as it falls, and, of course, to keep from getting smacked yourself.

There's an obvious need to bypass the obvious in your search for effectiveness, to take the unconventional approach at the right time.

When to Kick over the Traces

Two occasions suggest it's time for you to put aside the "tried and true":

When going by the rules gets you nowhere. The executive who talks himself blue in the face to maintain "good relations" with a recalcitrant subordinate, but fails to get the desired response, should realize he may have to create "bad relations" in order to crack the status quo.

When you want outstanding results. In many instances, the "right way" will work out adequately. But you may require something more. For example: A controller who writes his own credit letters knows that by following his past low-pressure tactics, he'll get a 25 per cent return. But the company needs every cent it can get that month. He sends off individual letters, addressed to the checkwriters at the other end, whose names he gets from the sales department. He doubles his previous best record for collections.

How to Avoid Kickbacks

Don't be confused on one point. We're not counseling the panicky move that an individual tries because all else has failed and he'd rather do something than nothing. The executive who has come to the pass where he'll "try anything" is not one to be emulated.

Suggested here is the use of the unorthodox solution as a matter of calm choice.

The executive who resorts to the unorthodox *in extremis* is the man who has failed to attempt the unusual as a considered step.

Some interesting reasons explain why we generally hesitate to leave the straight and narrow:

. . . We assume that there are two different kinds of *failure*. In one we have followed the "sensible" method and not made out; in the other we attempted an unusual course of action and failed. Somehow, we feel the second type is more culpable.

. . . *We all have a tendency toward the conventional.* That's to be expected. We've gone to the same schools, absorbed more or less the same learning, accepted the same social and ethical traditions. There's strong pressure for conformity in every society, ours included.

. . . *We tend to think of "rule breaking" as wrong.* And we fail to distinguish between "good rules"—those that protect—and "bad rules" that unnecessarily inhibit action that is *not* harmful or undesirable.

For example: The sign that says, "Speed Limit, 60 miles per hour," is a good rule, because it's for protection of the public. But the "rule" you so often hear expressed as, "We've always handled it that way," preserves nothing but the mental laziness or unconscious bias of the speaker.

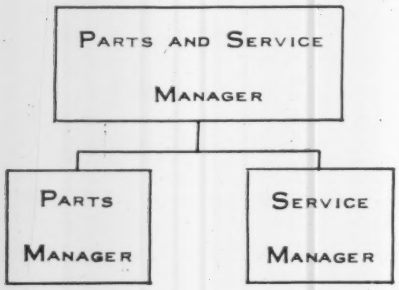
Some cases in point will illustrate the virtues of the fresh approach. Look what happens in the closely rule-bound areas of "right" and "wrong."

When It's Right to Be Wrong

A West Coast automobile dealer was suffering from a knock in his organizational motor. Poor relations between the parts and service departments had resulted in unsatisfactory service to customers. The head of the service department claimed he couldn't get materials as and when wanted. The parts department man-

ager felt that he was being asked to carry an impossible inventory: 15,000 parts are needed for just one style of car.

The dealer decided to change the organizational set-up from this form:



The dealer combined the operations and placed a *committee* of three managers in charge. Each man got equal authority and responsibility for both operations. Here's how the organization shaped up under the new arrangement:

Few students of organization would recommend that a three-man committee assume responsibility for two heavy-duty departments such as service and parts. Just consider some of the obvious problems.

. . . an almost minute-to-minute need to make scheduling decisions in line with customer relations policy;

. . . the "three bosses" bogey faced by the people of both departments;

. . . vague division of responsibility among the triumvirate.

Yet the organizational set-up devised by the car dealer works well. The three-man team operates on a unified budget and bonus system. All parts and service accounting procedures are now integrated. Problems of operating policy are decided by the three men. Projects are tackled cooperatively. Past frictions and delays have been eliminated.

"O.K.," you say, "how come?"

Good question. Let's answer it by asking two more:

Is it actually unsound? Don't assume that an unorthodox approach is necessarily unsound. The new arrangement, reduced to principles, may be as logical as the other.

Is the result permanent? Even the law of gravity may be defeated—for a time. Occasionally a "wrong" solution will prove a fine temporary expedient, until factors submerged by the change reassert themselves.

An astute sales manager, feeling that a change of some kind was necessary to jog his salesmen into a new frame of mind, paired them off. For a month's time, one member of the team was "in charge"; the other reported to him. The salesman in charge acted as the boss, questioned, suggested, encouraged. At the end of the month, they were rotated.

Obvious handicaps of the method meant eventual trouble. But for a few months the tremendous stimulation of the change paid off.

The implication here isn't that the unorthodox solution is at best a temporary solution. What is suggested is that when you apply an off-the-beaten-track method, it may require more careful watch and control.

When It's Wrong to Be Right

Now let's consider another instance where the normal, or commonly accepted, needs replacing by some-

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A knot, an egg, a steamboat, each in its own way and in its time, has demonstrated the merit of breaking through the shackles of the "right and proper way":

. . . **Knot.** Back in the 4th century B.C. an oracle had declared that whoever succeeded in untying the knot of cornel bark that bound the yoke of King Gordius' chariot to the pole should reign over all of Asia. Many men tried and failed. Alexander the Great didn't fiddle. He cut the knot by a stroke of his sword.

. . . **Egg.** That's the one Columbus stood on end by gently cracking the shell. He thus proved that a new approach could indeed bring about "the impossible."

. . . **Steamboat.** The *Clermont* was its name, and the skeptics were sure the smokestack would never replace the sail. But Robert Fulton's brainchild did indeed go places—and hasn't stopped yet.

DEBATE IN PRINT

Should the Federal Government Establish

A PATTERN FOR WORKMEN'S COMPENSATION LAWS?

Heated controversy has been aroused by the Department of Labor's "model" workmen's compensation law—as well as by the fact that the Federal Government has stepped into this area at all. Here, the Under Secretary of Labor and a leading industry spokesman present their contrasting views.

ARTHUR LARSON

Dr. Larson was appointed to the post of Under Secretary of Labor in 1954. He started practicing law in 1935 in Wisconsin and later engaged in teaching, government service, and college administration. He is the author of books and articles on labor legislation and a two-volume treatise, "The Law of Workmen's Compensation." Mr. Christenson has been spokesman for Minnesota industry on workmen's compensation legislation since 1944, when he became executive vice president of the Minnesota Employers' Association. He has had several years' experience with compensation problems on a national scale while chairman of a committee to study state laws.

OTTO CHRISTENSON

PRO

The word "model" is nowadays used in two different ways. It is sometimes employed to mean perfect or ideal, as when we speak of a "model" husband. In this sense, as we all know, there is no such thing as a model husband—nor is there such a thing as a model workmen's compensation act. The basic meaning, however, comes from the Latin *modus* or *modulus*, meaning measure. A model in this sense is something you check or measure against.

A good architect, working on an important project, builds a model to check his plans. Then he can tell whether he has omitted anything, whether any part of the building is out of proportion, and whether the total structure is well coordinated and efficient.

When the client looks at the model, he may say, "I can't afford all that—let's cut out the parking garage and the freight elevator." Well, that's the client's business. But it's the architect's duty to point out that no modern building of this kind is complete without a parking garage and freight elevator, and that there is going to be a lot of trouble if these are omitted.

Some time ago I visited a country where architects do not build models before starting construction. Even on the largest apartment buildings, the builder starts by pouring all his concrete, giving no thought to where the pipes and wiring are to go. Then along come the electricians and the plumbers. They go to work on the concrete with chisels, chopping holes all over the structure for their wires and pipes. In fact, I saw one 15-story building which had stood unfinished for three years, and was told the trouble was that they had completely forgotten to leave space for elevators.

A couple of years ago, a group of us in the Labor De-

Continued on page 142

CON

Why are industry, business, and many experts in workmen's compensation disturbed and concerned about the recent action of the Department of Labor at Washington in preparing a workmen's compensation law that Under Secretary Arthur Larson terms a "model"?

Literally hundreds of violent protests have been mailed to the Department in the last ten months. These protests have come from state manufacturers' and employers' associations, from insurance companies and their associations, and from many other groups and individuals. Practically all students of this technical and complex field condemn the Department's action.

To explain the reasons in a short article is difficult. Workmen's compensation laws are very complex. Each phase of the law has been the subject of books, articles, treatises, and hundreds of Supreme Court decisions. Some 40 years of experience, philosophy, and controversy have been interwoven into each one.

To appreciate properly the reasons why the Federal Government should not invade a field that has historically been the province of the individual states necessitates an understanding of matters that include occupational disease, insurance requirements, self-insurance, audits, rate making, claim administration, death benefits, medical benefits, amount and period of benefits, accident prevention, rehabilitation of the industrially disabled, and many more intricate or technical matters.

The main objective of workmen's compensation legislation is the payment of benefits to injured employees, or to dependents of employees killed, *regardless of who is at fault* when an accident occurs.

Employees injured by an industrial accident recover a stipulated amount from their employer or his insurer re-

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THE YES-MAN COMETH

by **VIRGINIA MORLEY**
drawings by Joseph Guarino

I can smile, and murder while I smile,
And cry "Content" to that which grieves
my heart;
And wet my cheeks with artificial tears,
And frame my face to all occasions.

SHAKESPEARE, HENRY VI

THE EASY ASSENT, the honeyed words that come so trippingly to the tongue—these are part of the stereotype of the yes-man. He may or may not wear a grey flannel suit, but his answer to the boss is never *No.* Chances are you wouldn't have one of those Hollywood-type characters working for you—he wouldn't last a day.

As a matter of fact, in a world of business which has become increasingly sophisticated and self-aware, the yes-man in his pristine form has become virtually extinct. And for the same reasons that many earthly creatures are labelled "discontinued" in museums: Extinct because they did not have adequate protective coloration—too easily spotted.

But what about the hypocritical "yes" that is still daily being said to the boss— "yes" in the larger sense of making him somehow feel good about himself, or his ideas; or the way things are going? What about the subtle, camouflaged "yes"?

It is, unfortunately, still with us. In fact, it never looked better. It doesn't try to get by with a smile and a nod. It wears a thoughtful look—is clothed in considered assurances.

It's all dressed up, and it's got somewhere to go. Perhaps.

Here, in any event, are some examples of what the well-dressed "yes" will wear.

LEOPARDSKIN AND CLUB: Always flexing his mental muscles, he's the strong man who will not yield easily to your ideas. This gives you all the more satisfaction when you win out in the end and convince him—which is the way he planned it.

MASK AND WIG: Master of the quick change, the big switch. He knows there's many an organizational sleight-of-hand that can be maneuvered without quite saying "No" to anybody. Has contacts and connections based on a long history of masqueraded "yesses" in the past—and he's one to watch out for.

CAP AND BELLS: Then there's the court jester. He visualizes himself as a kind of mascot to the executive team, but makes his biggest play to the boss. Gifted with an almost instinctive sense of timing, he can change his routine in a trice if the crowd grows restless. Lets it be surmised, too, that there's a Pagliacci side of him that nobody knows.

LANCE AND LACE: The guardsman, ever alert, constantly protecting the boss against bad news. In the manner of all self-styled censors, he screens out the "problems"—as he sees them—together with facts and ideas the boss should know about. Often it's a *she*—a high-handed executive secretary, bathed in reflected glory, who does things the boss wouldn't countenance himself.

BROKEN RIBS: This one breaks up at your jokes—even when you weren't kidding.

THE DOUBLE TAKE: At the very outset he agrees with you completely—but then his enthusiasm begins to wane: *Great* idea—but what will the Sales Department have to say about it? The Public Relations Department is bound to have certain reservations. By the time all the roadblocks have been set up, he's still on record as having said "yes"—it was "the others" who, *in absentia,* killed your idea.

VENTRILOQUIST: Puts words in the mouth of even the most articulate boss—words he knows he can agree with. He enlarges, he develops, he enhances your idea—sums it up better than you could. Feedback is his business, well-chosen (and well-placed) words his stock in trade.

OILSKIN SLICKER: Anything "yes" can say he can say slicker—and far less directly. Actually, though, he's almost impenetrable to outside ideas—they just roll off.

THE EMPEROR'S NEW CLOTHES: Cocky, self-assured—but hopelessly gullible himself—is the wearer of the naked "yes" who thinks he's getting away with it. Sooner or later, everybody sees through to him. It's just a matter of time—and all-around embarrassment.

DOES YOUR COMPANY SALES MAGAZINE REALLY SELL?

Many companies are discovering new ways of playing the organ (house-type) to produce sales.

THOMAS KENNY, *Marketing Editor*

In the world of mules
*There are no rules.**

—OGDEN NASH

AND THE SAME seems true of company sales magazines. But without carrying the comparison any further, here are the most glaring inconsistencies among sales magazines:

Most limit their pages to their own products but others, such as E. D. Bullard Company's *What's New In Safety*, also devote space to other products, some competitive. Many companies insist that separate publications should be developed for customers and employees, but others go along successfully serving both groups with one book.

Most are free but some charge subscription rates. Most refuse ads but several do sell space. Most avoid all controversial subjects but at least one devotes editorials to politics. Product application stories are bylined by salesmen, the customer, freelancers, and most often not at all.

Some company magazines for dealers devote considerable space to personal items about dealers while others limit their pages to product news and sales problems. Some companies will add anyone who asks to the mailing list for the magazine, while others make a special effort to pinpoint their readership.

Estimates of the number of externals or company sales magazines, are also nebulous. Guesses range anywhere from 900 to 3,000. Con Gebbie (of Gebbie Press, Inc.), who publishes a directory of house organs of all types and produces several for various companies, has made a count of 9,000. A new survey by the International Council of Industrial Editors indicates that 18 per cent are externals, while 14 per cent are combinations.

Despite the disagreement on the total, no one disputes that the number of company sales publications has been growing steadily now for several years, and that circulation has been rising. A DR & MI detailed survey of 50 companies also points this up.

In addition to the growth in numbers, there has been a notable change in the very nature of company publications during the past few years. Purely internal house organs are changing over increasingly into "combinations" which go to both employees and customers. However, this carrying water on both shoulders calls for a serious revamping of the company publication.

Gossipy material about individual employees is giving way to specific information about company operations and products.

Much slicker in format, much wider in appeal, these newer publications are proving to be a highly valuable adjunct to the selling team. Some, such as the widely admired *Ford Times*, are as expertly edited as any consumer magazine. Others use a more pedestrian approach, tailored to their particular needs. But however they are put together, company externals have but one purpose, and that is to help create sales. To this end, American corporations will spend about $200 million this year to produce these magazines.

Here are some of the specific tasks to which company sales magazines are being put:

- To reach potential customers
- To help customers make better use of products
- To help dealers and distributors sell more by: pushing selling aids, describing case histories of successful dealers, promoting ad support
- To build company prestige
- To stimulate salesmen
- To promote new uses of products

In striving for these objectives, sales magazines are encountering many problems. Here's how they are being solved in many companies.

Most companies make little attempt to trace back the effects of their company sales magazines directly to sales. For admittedly it isn't easy. As Larry Olds, editor of American Brake Shoe's *Metal Trends*, says, "A salesman hesitates to admit anything but his own legwork helped make a sale—so it is most difficult to measure the sales impact of an external sales magazine.

Most rely on the results that show up in customers' and salesmen's comments, readers' letters, and requests for reprints. These can certainly be impressive in themselves.

Whenever *Bakelite Review* (Bakelite Company, Union Carbide and Carbon Corp.) appears, the magazine receives more than 1,200 pieces of correspondence—a total to be envied by a regular magazine. Many of these produce sales leads, or at least serve as door-openers for salesmen.

An issue of Remington Rand's *Systems* magazine recently benefited not only the company but also a customer whose operations were described in its pages. As the result of extra business from the piece in *Systems*, the customer opened a dozen extra offices, in turn providing larger orders for Rem Rand equipment.

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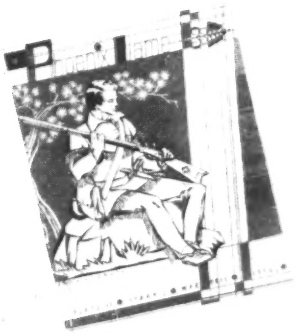
COMPANY MAGAZINES TRY DIFFERENT APPROACHES



"LITERARY" SALES MAGAZINE MAKES FRIENDS

Phoenix Flame, the publication of the Phoenix Metal Cap Co., of Chicago, stands apart from most other externals in that it is strictly low-pressure and soft sell. It follows the theory that when a company creates good-will, sales will follow as night does day.

One-fourth of an issue is about the company's products, and even this copy is restrained. Most space is devoted to classics, anecdotes, and impressive artwork. As one of its 5,200 readers recently wrote, "The *Flame* is a friendly handshake each month."

CUSTOMERS PAY TO READ THIS ONE

One of the few paid subscription company publications, the *Deltagram* reaches the fast-growing do-it-yourself market. Published by the Delta Power Tool Division of the Rockwell Manufacturing Company, it goes to 50,000 owners of home-workshops, who pay $1 for a year's subscription. It gives plans for workshop projects using Delta tools.

Delta rates this magazine as highly effective in promoting sales. It pinpoints the best prospects—those who already own some of the company's products.

FOLKSY APPROACH PAYS OFF

The Crown, which goes to 25,000 customers and prospects of the Crown Cork and Seal Company of Baltimore, resembles a small-town newspaper in function if not in format. It carries personal items about people in the trade, provides free want-ad listings for bottlers, canners, and others, and offers feature stories on new plants and processes.

Other regular features include a long rambling column of humorous observations and a page of how-to-sell anecdotes. Crown manages to get its own story across in advertisements and production-application editorial material.

LOOKS LIKE A REGULAR TRADE MAGAZINE

Both in format and content, this company magazine could pass as a business publication. Published by the Art Metal Construction Company, *The Office Economist* has the second largest circulation in its field, 92,000. It has risen nearly 50 per cent during the past five years. New subscribers are added after a check of their interest and buying influence in the office equipment field.

Each issue carries a story about office layout and a few ads by the office equipment maker; the rest is devoted to such articles as "How to Learn to Listen" and "Read Between the Lines of Your Business Correspondence."

This is the key consideration to keep in mind in producing a sales magazine: You must plan each story to show the reader how to gain from reading your pages. Never lose sight of the fact that readers devote precious reading time to your pages only because they hope to pick up ideas which they can put to use to produce profits.

A few of the larger companies—Du Pont and Monsanto, for example—conduct periodic depth interview surveys of cross-sections of their readership in order to trace the sales impact of the company magazine.

Another company that is making a serious effort to measure the sales effectiveness of its publication is Brooks and Perkins Inc., a magnesium fabricator of Detroit, which publishes *The Magazine of Magnesium*. Says Advertising and Public Relations Manager Ralph Gillespie: "We have devised no methods of accurately gaging the value of the magazine to the sales effort. However, we have a long list of instances where companies have come to us to quote on jobs because they were acquainted with us through the magazine. We also have many instances where our salesman was welcomed on his first call to a company because the man called on was a reader and in hundreds of cases had our magazine on his desk."

Even more systematic are the sales tracing efforts of the E. D. Bullard Company, manufacturer of industrial safety equipment, San Francisco. From a circulation of 32,000, the company receives 1,200 postage-free return cards each month from readers, seeking further information about products described in its publication. A carbon of each of the 1,200 letters and a lead card are then sent to local salesmen and distributors, who return the lead card to the advertising manager within a few months for a check of the results of the lead.

Another unusual approach to testing the sales value is that developed by General Electric for its sales magazine *Light*, which has nearly doubled its circulation in the past five years. Says *Light* Editor B. E. Schaller: "As opposed to a free circulation magazine, our district offices pay for names carried and added. With their paying for *Light* and not using that money to purchase other material offered by other home office activities, we consider circulation growth to be an accurate measurement of the sales job the districts think the magazine is doing for them."

Since the sales value of a company external is gaged largely by the opinions of salesmen, you should make every effort to see that they are putting it to best use. They should be familiar with the contents of the current issue at least so that they can answer customers' questions and point to product application stories that can solve prospects' problems.

However, most companies just assume that their own salesmen are reading their customer magazine.

A sales magazine that leans heavily on product application stories, such as Rem Rand's *Systems*, is not only serving customers and prospects with valuable information, but producing highly effective sales ammunition for its own sales force as well.

To make sure that salesmen at least hear about coming articles, Rem Rand describes them in its internal house organ for salesmen and also discusses them at sales meetings. Previews in one form or another are also sent to salesmen by Clement Company, Standard Register, and Rohm & Haas among others.

Whenever material on a customer appears in the *Bakelite Review*, ACF's *Wheels*, or Armco Drainage & Metal Products' *Highway*, a special effort is made to let the particular salesman know of it. But, however salesmen use a company sales magazine, it is important to see that they don't treat it as a hand-out. If it is passed out freely, it loses value in the eyes of the customer and becomes just another promotional piece to take up his busy time. To be valuable, a company sales magazine must be known as a reliable objective source of information on product applications. Those that take this approach are eagerly sought by both prospects and customers and develop an added aura of believability which makes the selling job just so much easier.

Very few company magazines that feature product application stories make a systematic effort to gather the material on a regular basis. They usually rely on word-of-mouth tips from company salesmen.

However, at the Bakelite Company a special group in the advertis-

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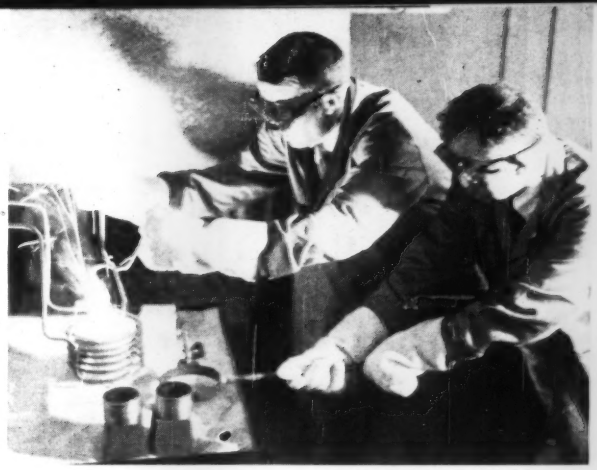
Pitfalls of Publishing a Company Sales Magazine

- ☐ Do you include more information about how your product is made than how your customers use it?
- ☐ Do you include news about personnel changes in your company that do not concern your readers?
- ☐ Do you omit a clear statement of the audience for whom the publication is intended?
- ☐ Do you indicate clearly on the masthead your major products and telephone number?
- ☐ Do you try to send your magazine to employees *and* customers without revamping it?
- ☐ Have you set up a standard that proposed editorial matter must meet? If you limit your product application stories to those that are newsworthy, you'll avoid complaints from customers who are not mentioned.
- ☐ Have you set up a system to insure that product-use stories are cleared with all the companies involved before publication? Some sales publications have faced lawsuits for not doing so.
- ☐ Have you set up a system to delete circulation deadwood?
- ☐ Does your editor have a clear idea of the audience he is writing for and what impression the publication is trying to get across?
- ☐ Has your sales magazine become static in content and layout?
- ☐ Are your editorial pages cluttered with extravagant product claims? Or do you present objective information about customer benefits and proofs of performance?
- ☐ Does the editor have one boss or does he have to pass his work along to a platoon of approvers?
- ☐ If you use a joke column, do you screen every gag to make sure it doesn't offend by being risqué or insulting to a minority group?
- ☐ Are you as careful in the spelling of trademarks of other companies as you are with your own? If not, you can cause ill feeling towards your own company. (See April 1956, page 137, and June 1956, page 39, for a list of capitalized trademarks.)
- ☐ Are you fully aware that skimpy budget for an external sales magazine is worse than none at all?

William V. Lieske was helping science students to perform an experiment in his classroom at Solomon Juneau High School, Milwaukee, in June. School teacher then, two weeks later he was . . .



Summer Science Fellow Lieske, on the learning end himself, as he and a fellow-Fellow pour a heat of stainless steel in Research Division of Allis-Chalmers Manufacturing Company, program sponsor.

BUSINESS MEN, TEACHERS GET TOGETHER

Both parties learn, mutual understanding is increased, and students get better schooling as result of new industry-school exchange of personnel.

ALFRED G. LARKE, *Employer Relations Editor*

INDUSTRY'S INTEREST in promoting mutual understanding between itself and the teaching profession is evidenced by hundreds of Business-Industry-Education Days, throughout the year and throughout the country. Now a new technique for accomplishing the same end is coming into use that promises even better results.

The B-I-E Day consists of a specially planned plant tour for secondary school and college instructors, with a talk by plant officials and a question-and-answer period the same day or sometimes later on the teachers' home grounds.

The new development is designed to create a deeper mutual understanding than is possible in the brief meetings afforded by B-I-E Days. Essentially it is an exchange of personnel between manufacturing and business concerns and nearby college and high school faculties. In practice, it takes a variety of forms.

Of 41 companies answering an inquiry, 24 told DUN'S REVIEW AND MODERN INDUSTRY that they had some such program, formal or informal, in effect during the past Summer, and three others were planning one or had the matter under favorable consideration. Some were engaged in two or more differing programs with the schools at the same time.

In most cases, what is involved is the Summer employment of college professors and instructors and high school teachers. In many instances, six-week fellowships are awarded, and a selected group of teachers is given an intensive look at how the company operates—a day or a week in each department with advance briefings by the department head and follow-up discussion periods in which questions are answered and suggestions offered.

The fellowship device is used for several reasons. For one thing, it is the method suggested by the Foundation for Economic Education, which has promoted the idea for several years, and by other groups such as the American Association of University Teachers of Insurance. For another, it obviates the necessity of payroll tax deductions and meaningless (because intentionally temporary) inclusion in insurance, pension, and other welfare programs.

Other companies, however, do put the Summer educational employee on the regular payroll, usually at a rate ranging from $100 a week (plus transportation) to one-ninth of the instructor's regular annual salary or a flat rate approximately that.

Still another device is an intensive one- or two-week seminar, all costs paid. At the other extreme of temporary tenure is the practice of some divisions of the Monsanto Chemical Company, which engage a professor of some scientific subject for the duration of his sabbatical leave.

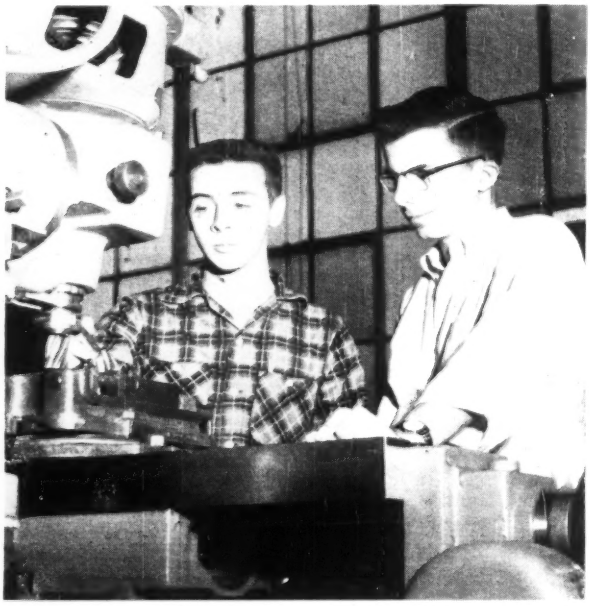
In still other cases, no employment is involved, but companies or their local associations forecast the different skills their operations will

How DeLaval works with schools and students in making

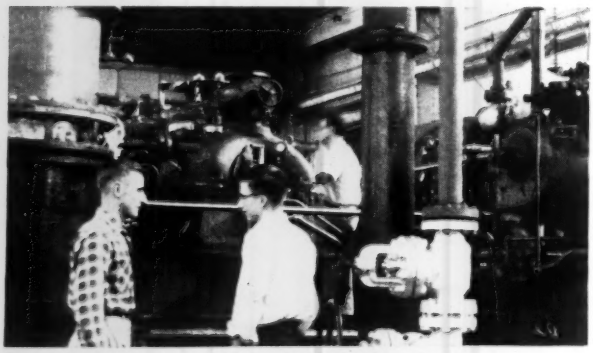
1 Trenton high schools arrange for DeLaval representatives to discuss summer workshop plan with promising senior students.

2 David Schoenthaler, high school senior this term, started in ou drafting job last Summer. Company engineer counsels him.

3 Robert DeChico, second-year trainee now at Rutgers University, passes on new-learned lore regarding tool production.



4 Besides showing Dave how cutting tool, whose design he worked on, sets up in milling machine, Robert talks up college.



5 Encouragement of high schoolers to stick at engineering is a program aim. George Mikutowicz, of Rutgers, works on Dave.

6 Salesmanship is later part of program. DeLaval Sales Manager Clyde Cromwell, instructor and counsellor, here takes over.

engineers

Many companies employ college seniors the Summer before their graduation so that men and management may look each other over for fit before recruitment begins next Spring. However, DeLaval Steam Turbine Company, 55-year-old Trenton, N. J., manufacturer, has a program that starts back in the pre-senior Summer of high school and gives guided employment from then on through college to students who measure up to requirements.

James P. Stewart, DeLaval president, sees many values in the plan. It may keep some of the 50 per cent of engineering students who now switch careers in mid-college from doing so in the future. Continued connection with a live job potential in a real-life plant in his home town may persuade a young man to stick at his chosen profession.

Practical plant experience will lend realism to Winter's academic work; the school's theoretical background adds zest to the Summer employment break-in period, Stewart thinks.

He would like to see the program carried out on a community-wide rather than merely a one-company basis, maintaining and building up a home-town pool of talent whether trainees stick with the original sponsor or not. Schools and newspapers seem to agree; they have responded enthusiastically. Fellow industrialists seem interested in the idea, too, and are studying the possibility of adapting the program to their plants.

To be considered for DeLaval's Summer undergraduate workshop, an applicant must be a resident of the Trenton area and a high school graduate enrolled in a recognized engineering school or a high school senior accepted for such enrolment. Those chosen—there were eleven in 1955, fifteen this year, will be more in the future—are given individual counselors from the DeLaval engineering and administrative staff, headed by Walter R. Read, program director, who will stick with them as long as they are in the program, advising on the job in Summer and by correspondence or otherwise to college during school.

They start out on drafting, get experience through frequent job rotation where possible, at least annual job-change where not.

require in the next five to ten years, then meet with local educators' groups to see what can be done to channel students' interests into these lines. The information exchanged is of value to the educators and the students as well as to the employers.

Scholarships for promising secondary school students constitute another subject, but even in this area at least two companies have come up with programs that should promote relationships between industry and education. Union Carbide and Carbon Corporation, for example, this year announced that up to one-fourth of the 392 undergraduate scholarships it offers through 49 colleges may be awarded to students desiring to enter teaching. Originally its scholarships went only to those planning to enter industry or business.

Similarly, Columbia-Southern Chemical Corporation of Natrium, W. Va., has announced a program to make Summer fellowships in science—at recognized colleges—available to teachers of science and mathematics at Magnolia High School in New Martinsville, where children of many of its employees get their schooling.

Some programs are hard to classify. One example is the DeLaval plan, described at left, in which close cooperation with both high school and college teachers is implicit although not stressed formally. In the case of a Midwestern, multi-plant agricultural implement concern, a work-and-study program for high school teachers—work nights and go to school days—also obviously engenders frequent collaboration between employer and teacher, and the improved understanding likely from such steady intercourse.

While most of these programs involve teachers immersing themselves in the workaday problems of a going industry, the immediate future may see an increase in the number of industry people taking a dip in the educational pond.

The Detroit Edison Company, for instance, has already lent an engineer to Wayne State University for a year. Preston Amerman, director of employment for the utility, is not certain the practice should become a regular policy; he thinks there may be public relations considerations weighing against it. In the specific case involved, a last-minute resignation left the university with a set of courses uncovered, and Detroit Edison was able to find a man who could teach them. So it lent him while carrying him on leave from the Detroit Edison payroll. As an isolated instance, this served the interests of all parties.

Not every industrially successful engineer or scientist is useful in an educational institution, Amerman points out. The schools want from industry men who had teaching experience before their ability attracted industry to them.

Just such a lending of personnel to the schools as Detroit Edison has pioneered was urged upon industry by David A. Shepard, a director of Standard Oil Company (New Jersey), in a panel discussion at the annual meeting of the American Council on Education last month.

"I am thinking," he said, "of a program whereby an economist employed by a company could do more than spend an evening or two a week teaching a course in money and banking at a university. I am thinking rather of the possibility of industry people becoming part of the whole college community for a semester or an entire school year, and devoting their full time to educational activity. Through close daily association with administrators, professors, and students—through friendships they would inevitably develop—they would certainly come to a better understanding of the problems of education, and they would, in turn, have the opportunity of making the concerns of business clearer to the academic world."

Shepard cited a previous suggestion that the collegiate mechanism of appointing a writer-in-residence or an artist-in-residence provides a form for the similarly temporary industrialist-in-residence.

The precedent for granting leaves of absence has been established, he points out, in the loan of industrial technologists and business men to the government, often for the period of a year. He also suggests there may be a reservoir of talent among the men retired at 65 because of rigid company policy. Running counter to this suggestion, however, is the fact that many universities have similar age and retirement policies.

Shepard also suggests that corporations release competent employees on a part-time basis to teach science where shortages exist.

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FOURTEEN IMPORTANT RATIOS

IN 24 WHOLESALE LINES

WASHINGTON FRUIT AND PRODUCE MARKET, NEW YORK CITY—HOWE PHOTOGRAPH

Although it was a booming year for trade, for the majority of the 24 lines of wholesaling the ratio of net profits to net sales in 1955 was slightly below the average for the five years 1950–1954, probably reflecting the inroads of higher costs and heightened competition.

The ratios are a unique way for business men to compare their operations with those of their competitors. Devised in 1931 by Roy A. Foulke, vice president of Dun & Bradstreet, Inc., the ratios have been compiled under his direction for the past 25 years. They are widely used by both business men and bankers. Similar ratios for retailers appeared in the October issue; those for manufacturers will appear in December.

Line of Business (and Number of Reporting Concerns)	Current Assets to Current Debt	Net Profits on Net Sales	Net Profits on Tangible Net Worth	Net Profits on Net Wkg. Cap.	Net Sales to Tangible Net Worth	Net Sales to Net Working Capital	Average Collection Period	Net Sales to Inventory	Fixed Assets to Tangible Net Worth	Current Debt to Tangible Net Worth	Total Debt to Tangible Net Worth	Inventory to Net Working Capital	Current Debt to Inventory	Funded Debts to Net Wkg. Capital
	Times	Per Cent	Per Cent	Per Cent	Times	Times	Days	Times	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent
FOR 24 WHOLESALE TRADES—1955—MEDIANS AND QUARTILES														
Automobile Parts and Accessories (174)	4.44	3.22	12.21	17.21	4.82	6.11	30	7.0	7.9	22.6	46.5	64.9	40.6	7.6
	3.00	**1.71**	**6.65**	**8.13**	**3.56**	**4.73**	**37**	**5.1**	**15.4**	**38.2**	**58.2**	**87.9**	**61.1**	**18.0**
	2.28	0.76	2.40	3.55	2.75	3.41	43	3.9	34.8	53.6	93.8	108.7	86.6	33.1
Baked Goods (44)	2.54	3.73	16.79	72.19	7.45	22.21	7	31.3	66.9	20.8	39.6	45.8	112.8	40.3
	1.89	**2.60**	**12.23**	**46.02**	**5.18**	**15.78**	**10**	**25.0**	**78.8**	**27.3**	**54.4**	**75.3**	**146.2**	**125.9**
	1.40	1.39	7.69	28.67	3.00	9.79	12	18.7	105.6	40.4	101.0	133.3	195.5	183.6
Cigars, Cigarettes and Tobacco (73)	4.19	0.80	11.11	14.96	25.63	38.20	10	36.1	6.2	19.5	58.6	55.3	57.2	6.2
	2.32	**0.36**	**4.45**	**6.83**	**14.06**	**23.75**	**16**	**26.4**	**11.7**	**54.5**	**115.2**	**73.4**	**96.1**	**21.5**
	1.63	0.08	1.20	1.99	9.63	12.21	23	19.5	26.7	103.8	175.2	109.3	146.9	27.8
Confectionery (23)	6.57	2.63	10.12	31.60	10.82	17.14	13	25.0	3.8	14.0	32.6	39.6	28.6	15.0
	3.56	**1.53**	**8.31**	**9.12**	**5.80**	**9.71**	**20**	**13.6**	**10.4**	**32.6**	**36.1**	**60.1**	**70.8**	**32.2**
	2.72	0.84	5.29	7.81	4.13	5.31	26	9.0	19.8	49.0	38.3	90.1	101.7	75.1
Drugs and Drug Sundries (59)	3.22	3.24	15.11	19.74	8.43	10.09	14	8.9	3.5	35.2	50.1	76.7	52.4	6.5
	2.41	**1.70**	**7.97**	**9.73**	**5.51**	**6.91**	**28**	**7.3**	**10.5**	**62.7**	**71.5**	**95.7**	**67.4**	**20.3**
	2.06	0.80	5.89	6.28	4.23	4.86	39	5.8	17.5	80.7	100.4	122.3	90.5	29.9
Dry Goods (154)	5.64	2.00	7.23	9.19	5.86	6.72	35	8.0	2.0	18.5	39.8	49.8	38.3	8.0
	2.86	**1.00**	**3.78**	**4.46**	**3.97**	**4.55**	**43**	**6.3**	**4.3**	**43.1**	**64.5**	**67.9**	**69.9**	**20.7**
	2.18	0.30	1.32	2.00	2.87	3.44	52	4.7	11.0	70.0	93.0	99.0	98.0	31.5
Electrical Parts and Supplies (122)	3.01	2.56	12.93	14.90	7.52	8.76	39	10.9	4.8	40.3	40.8	54.8	74.3	6.2
	2.16	**1.50**	**8.20**	**10.02**	**5.57**	**6.40**	**47**	**8.5**	**10.6**	**70.4**	**87.0**	**78.1**	**99.1**	**14.1**
	1.74	0.72	5.05	5.94	4.60	5.13	53	6.3	20.5	107.3	120.6	105.9	137.7	29.3
Fruits and Produce, Fresh (50)	6.48	3.77	19.07	29.04	12.94	20.17	10	60.0	8.0	9.9	18.0	11.0	76.0	14.7
	3.54	**0.94**	**9.56**	**12.85**	**10.37**	**18.21**	**15**	**40.3**	**18.9**	**22.9**	**53.7**	**25.0**	**152.2**	**39.3**
	2.20	0.42	4.70	6.24	6.66	8.04	22	13.9	34.9	59.8	89.1	60.6	239.2	103.8
Furnishings, Men's (29)	9.01	5.06	19.39	24.68	4.72	5.32	29	6.8	3.4	8.7	18.7	44.4	28.7	6.6
	3.03	**2.70**	**5.54**	**8.94**	**2.82**	**3.66**	**46**	**5.2**	**5.4**	**32.7**	**42.7**	**67.7**	**60.6**	**21.2**
	2.13	0.54	2.26	2.37	1.76	2.60	66	4.1	16.2	76.8	80.1	90.6	87.5	25.9
Gasoline, Fuel Oil, and Lubricating Oil (47)	2.33	2.24	14.36	33.15	10.93	18.95	28	34.8	19.0	36.7	72.3	30.2	106.8	11.6
	1.82	**1.29**	**9.23**	**19.12**	**5.26**	**14.23**	**35**	**19.8**	**46.4**	**63.5**	**110.6**	**57.5**	**203.1**	**43.5**
	1.55	0.99	5.42	10.39	3.95	9.75	39	13.4	66.4	97.3	192.0	102.4	396.1	71.8
Groceries (257)	5.07	1.18	11.60	15.80	12.20	18.01	10	13.6	7.4	19.3	55.3	74.2	32.3	14.9
	2.87	**0.69**	**6.03**	**7.27**	**7.76**	**10.09**	**15**	**10.5**	**15.1**	**41.4**	**85.5**	**99.6**	**52.3**	**24.8**
	2.01	0.23	1.97	2.71	5.55	7.23	21	7.5	26.8	72.3	121.3	139.5	74.2	48.6

14 important ratios IN 24 WHOLESALE LINES

Line of Business (and Number of Reporting Concerns)	Current Assets to Current Debt	Net Profits on Net Sales	Net Profits on Tangible Net Worth	Net Profits on Net Wkg. Cap.	Net Sales to Tangible Net Worth	Net Sales to Net Working Capital	Average Collection Period	Net Sales to Inventory	Fixed Assets to Tangible Net Worth	Current Debt to Tangible Net Worth	Total Debt to Tangible Net Worth	Inventory to Net Working Capital	Current Debt to Inventory	Funded Debts to Net Wkg. Capital
	Times	Per Cent	Per Cent	Per Cent	Times	Times	Days	Times	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent
FOR 24 WHOLESALE TRADES—1955—MEDIANS AND QUARTILES														
Hardware (163)	5.49	3.35	11.04	11.81	4.65	5.20	27	5.7	5.0	17.1	48.9	72.5	32.5	7.6
	3.42	**1.81**	**5.76**	**7.22**	**3.12**	**3.81**	**35**	**4.0**	**14.6**	**34.7**	**61.0**	**91.1**	**44.4**	**16.5**
	2.26	1.28	4.11	5.03	2.46	2.82	42	3.2	25.0	66.3	108.0	111.6	76.9	27.8
Hosiery and Underwear (41)	5.71	5.36	18.59	20.72	5.31	6.78	34	8.6	1.2	18.3	....	55.0	44.4	....
	3.12	**1.59**	**5.00**	**8.88**	**3.64**	**5.32**	**41**	**6.3**	**3.9**	**41.0**	....	**80.2**	**73.3**	....
	1.93	0.38	1.71	1.61	2.52	2.62	54	5.4	5.2	68.8	....	96.4	103.2	....
Household Appliances, Electrical (102)	3.07	1.58	11.56	14.93	8.27	12.08	32	9.5	5.1	39.0	71.6	63.0	69.6	11.7
	2.03	**1.01**	**7.58**	**9.50**	**7.37**	**8.29**	**38**	**7.0**	**11.1**	**78.8**	**133.0**	**87.1**	**97.2**	**20.0**
	1.52	0.66	5.07	4.81	4.90	5.41	52	5.9	22.6	160.0	191.4	136.9	131.5	31.8
Iron and Steel Sheets, Strips, Bars and Plates (38)	4.50	6.51	17.00	24.56	5.53	8.00	22	9.3	12.6	20.5	59.0	54.5	42.3	13.2
	3.44	**3.54**	**11.98**	**15.29**	**2.57**	**3.04**	**34**	**4.7**	**22.6**	**30.3**	**76.8**	**75.5**	**57.0**	**25.6**
	2.30	3.30	8.75	10.03	1.81	2.40	49	3.6	44.8	58.8	87.9	112.1	90.5	48.7
Lumber (97)	4.91	2.09	15.05	23.68	8.93	11.49	31	22.7	4.2	19.2	58.8	37.6	49.0	3.1
	2.90	**1.07**	**6.30**	**8.12**	**6.84**	**9.67**	**36**	**12.9**	**12.3**	**43.4**	**86.1**	**67.2**	**86.7**	**18.6**
	2.04	0.56	4.18	5.04	4.52	5.86	48	6.3	19.2	77.9	158.8	101.9	182.4	23.3
Lumber and Building Materials (85)	4.56	2.62	11.77	18.91	6.43	7.70	27	10.3	8.3	20.4	38.4	51.1	45.7	3.5
	3.38	**1.54**	**7.34**	**10.26**	**4.91**	**6.06**	**39**	**6.5**	**19.0**	**31.2**	**66.6**	**71.4**	**65.6**	**20.4**
	2.27	0.45	3.61	3.72	2.51	3.56	53	5.0	35.0	60.8	110.8	91.5	102.8	39.7
Meat and Poultry (38)	3.86	1.97	17.67	31.14	13.31	25.75	11	62.6	8.7	20.7	29.3	25.0	59.1	12.7
	2.46	**0.94**	**9.86**	**15.18**	**9.57**	**16.80**	**15**	**36.4**	**21.7**	**42.6**	**53.9**	**57.9**	**134.7**	**33.2**
	1.61	0.26	3.22	5.73	5.78	9.44	32	23.7	35.9	83.0	184.2	87.0	234.4	92.2
Paints, Varnishes and Lacquers (34)	7.07	4.83	14.20	21.64	4.87	6.56	31	7.5	7.3	16.2	39.7	52.9	31.3	4.1
	2.70	**1.70**	**6.08**	**9.29**	**3.00**	**4.47**	**39**	**5.5**	**21.7**	**33.3**	**60.0**	**77.0**	**69.7**	**24.0**
	2.07	0.76	2.05	2.50	2.34	2.99	56	3.8	35.8	56.5	82.1	89.7	102.9	35.5
Paper (132)	4.24	1.93	10.10	13.32	8.01	12.96	29	12.7	5.6	23.7	51.2	56.3	52.2	10.8
	2.57	**1.12**	**6.52**	**7.60**	**5.05**	**7.15**	**34**	**7.5**	**12.4**	**48.7**	**88.5**	**77.5**	**82.3**	**16.5**
	1.89	0.43	2.43	2.86	3.72	4.16	44	6.3	29.5	84.9	119.3	102.8	118.2	32.8
Plumbing and Heating Supplies (138)	5.07	3.66	12.77	15.20	5.56	6.47	35	7.2	7.3	21.3	29.9	64.2	34.9	5.9
	3.33	**1.88**	**8.55**	**10.61**	**3.96**	**4.74**	**46**	**5.5**	**15.8**	**36.3**	**68.1**	**81.0**	**57.3**	**14.1**
	2.12	1.13	4.58	6.54	2.61	3.51	57	3.8	23.6	71.7	112.8	104.6	91.5	25.6
Shoes, Men's, Women's and Children's (57)	3.97	1.71	8.38	8.94	6.48	7.06	37	8.9	1.0	29.2	53.5	46.0	64.1	3.6
	2.47	**1.01**	**3.90**	**4.59**	**4.52**	**5.83**	**55**	**7.3**	**3.8**	**52.4**	**92.4**	**64.5**	**107.6**	**18.5**
	1.91	0.46	1.74	1.93	3.45	3.61	66	5.9	10.1	91.9	132.7	84.3	145.9	26.0
Wines and Liquors (44)	3.81	2.36	10.27	19.32	8.75	12.86	11	12.9	7.7	25.1	58.4	57.5	55.2	3.9
	2.18	**0.86**	**5.23**	**8.98**	**6.09**	**9.07**	**30**	**7.5**	**21.9**	**66.2**	**118.9**	**85.2**	**91.3**	**21.0**
	1.51	0.40	2.43	3.66	3.65	5.37	50	4.3	49.5	115.8	149.8	150.2	121.7	29.6
Womenswear, Coats, Suits and Dresses (36)	4.14	5.87	11.07	20.43	7.27	8.71	32	25.3	2.1	22.9	25.3	20.8	87.5	6.8
	2.84	**1.03**	**4.20**	**7.02**	**4.47**	**5.20**	**50**	**10.4**	**9.6**	**40.0**	**75.0**	**40.9**	**155.0**	**26.4**
	2.04	0.08	0.60	0.72	1.51	3.74	69	5.5	21.1	77.3	183.7	73.8	200.0	44.2
WHOLESALE GROCERS—BY SIZE (TANGIBLE NET WORTH) CLASSES—MEDIANS ONLY														
1955 Under $200,000	**2.49**	**0.37**	**3.50**	**4.38**	**8.08**	**9.20**	**16**	**9.5**	**11.8**	**59.1**	**111.2**	**110.5**	**59.5**	**22.0**
1955 $200,000-$500,000	**3.10**	**0.83**	**6.67**	**7.78**	**7.41**	**11.28**	**14**	**10.9**	**14.0**	**35.4**	**74.6**	**97.8**	**44.5**	**20.4**
1955 Over $500,000	**2.96**	**0.73**	**8.02**	**11.48**	**8.07**	**10.96**	**14**	**10.8**	**20.4**	**38.8**	**82.9**	**96.4**	**51.7**	**32.2**

DEFINITIONS OF TERMS

THE RATIOS—The data used are based upon a representative sampling with a tangible net worth which only occasionally is below $50,000. . . . The center figure for each of the twelve lines is the median. The other two figures in each line are quartiles; for each ratio they indicate the upper and lower limits of the experiences of that half of the concerns whose ratios are nearest to the median. When any figures are listed in order according to their size, the median is the middle figure (same number of items from the top and the bottom) and the quartiles are the figures that are located one-quarter and three-quarters down the list.

COLLECTION PERIOD—The number of days that the total of trade accounts and notes receivable (including assigned accounts and discounted notes, if any) less reserves for bad debts, represents when compared with the annual net credit sales. Formula—divide the annual net credit sales by 365 days to obtain the average credit sales per day. Then divide the total of accounts and notes receivable (plus any discounted notes receivable) by the average credit sales per day to obtain the average collection period.

CURRENT ASSETS—Total of cash, accounts and notes receivable for the sales of merchandise in regular trade quarters less any reserves for bad debts, advances on merchandise, inventory less any reserves, listed securities when not in excess of market. State and municipal bonds not in excess of market, and United States Government securities.

CURRENT DEBT—Total of all liabilities due within one year from statement date including current payments on serial notes, mortgages, debentures, or other funded debts. This item also includes current reserves such as gross reserves for Federal income and excess profit taxes, reserves for contingencies set up for specific purposes, but does not include reserves for depreciation.

FIXED ASSETS—The sum of the cost value of land and the depreciated book values of buildings, leasehold improvements, fixtures, furniture, machinery, tools, and equipment.

FUNDED DEBT—Mortgages, bonds, debentures, gold notes, serial notes, or other obligations with maturity of more than one year from the statement date.

INVENTORY—The sum of raw material, material in process, and finished merchandise. It does not include supplies.

NET PROFITS—Profit after full depreciation on buildings, machinery, equipment, furniture, and other assets of a fixed nature; after reserves for Federal income and excess profit taxes; after reduction in the value of inventory to cost or market, whichever is lower, after charge-offs for bad debts; after miscellaneous reserves and adjustments; but before dividends or withdrawals.

NET SALES—The dollar volume of business transacted for 365 days net after deductions for returns, allowances, and discounts from gross sales.

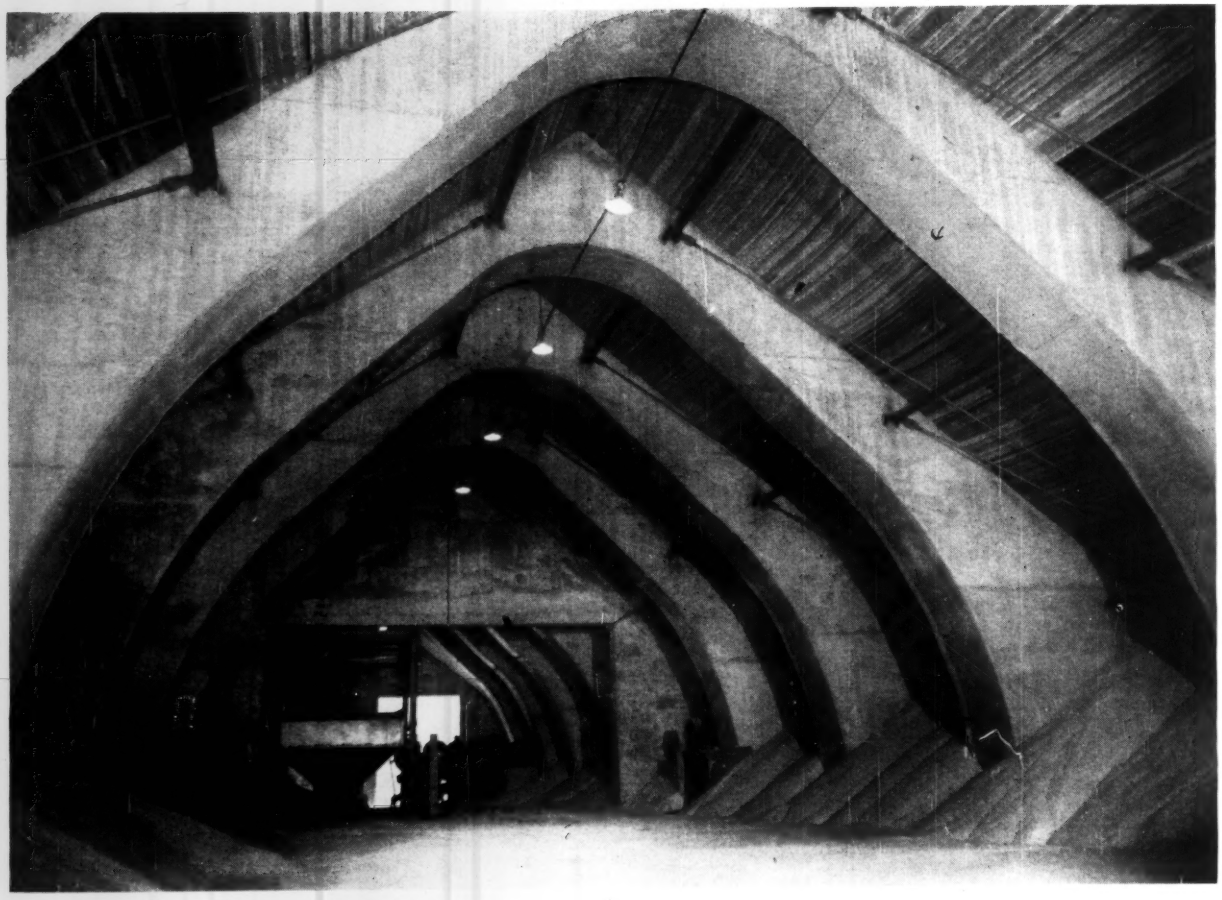
NET SALES TO INVENTORY—The quotient obtained by dividing the annual net sales by the statement inventory. This quotient does not represent the actual physical turnover which would be determined by reducing the annual net sales to the cost of goods sold, and then dividing the resulting figure by the statement inventory.

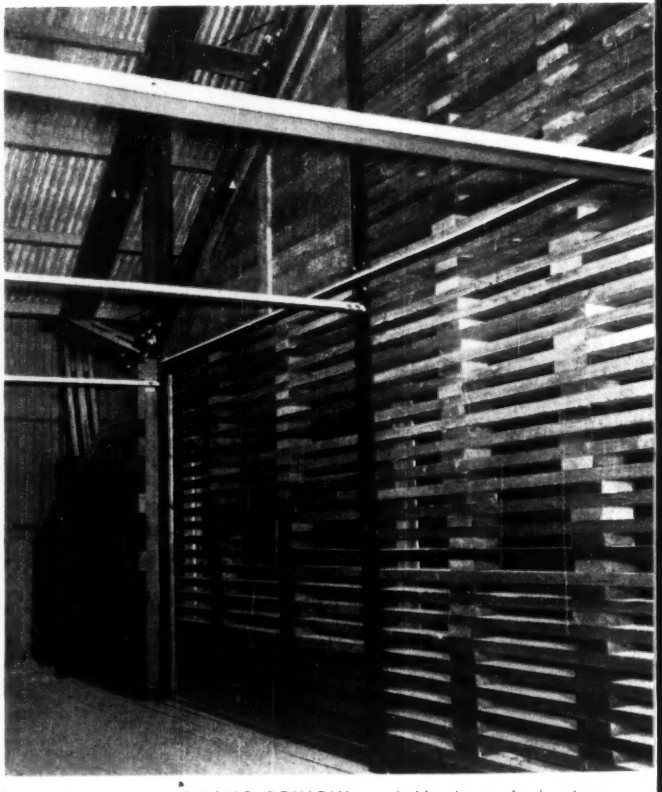
NET WORKING CAPITAL—The excess of the current assets over the current debt.

TANGIBLE NET WORTH—The sum of all outstanding preferred or preference stocks (if any) and outstanding common stocks, surplus, and undivided profits, less any intangible items in the assets, such as good-will, trade-marks, patents, copyrights, leaseholds, mailing list, treasury stock, organization expenses, and underwriting discounts and expenses.

TURNOVER OF TANGIBLE NET WORTH—The quotient obtained by dividing annual net sales by tangible net worth.

TURNOVER OF NET WORKING CAPITAL—The quotient obtained by dividing annual net sales by net working capital.





29 WAYS TO SAVE ON STORAGE

ANNESTA R. GARDNER, *Industrial Editor*

STORAGE is everybody's problem. From product design to sales, nearly every department's activities affect the efficiency of storage operations, and are affected by them.

Even in the fully automatic, in-one-end-and-out-the-other plant, storage facilities will probably be needed, if only to cushion unavoidable delays. Quite likely, too, storage facilities will be required to accommodate the tools, gages, and control equipment which are not immediately in use.

But storage need not be a dangerous drag on the budget. As the examples here show, costs can be kept within bounds and storage time can be turned into productive time if everyone in the plant cooperates.

For example, the product designer can help keep storage costs in line by standardizing parts and products, and providing built-in grips and lugs for handling big, bulky items. It helps, too, if he avoids odd shapes, sharp edges, and projecting bosses that make parts hard to store and may become safety hazards.

The sales department can help reduce storage costs in several ways:

If its sales forecasts are accurate, procurement and production can be scheduled so parts and products won't pile up in storage waiting for orders to come in.

If salesmen really try not to accept orders for non-standard items, or at least specify long delivery dates on them, a major source of production and storage headaches will be eliminated.

Almost every order for non-standard models and odd quantities puts either storage or production behind the eight-ball. If production elects to make just what is ordered, set-up and processing costs are likely to skyrocket. If, on the other hand, it overproduces to take advantage of optimum-lot processing, the excess will have to be stored. Selling in standard quantities, or specifying longer delivery dates on nonstandard amounts so orders can be grouped, can go a long way toward solving the problem.

The purchasing agent can take a major bite out of storage costs by ordering products and materials in the most easily handled form. He can schedule deliveries so purchased items will be on hand when needed, but won't pile up ahead of time.

The recurrent shortages of the past fifteen years have made many purchasing agents stockpile-minded. They hesitate to "take a chance" on frequent, short-term deliveries, preferring to be "sure" by ordering large quantities at widely spaced intervals. And they pay for that lack of confidence in needless storage costs.

AC Spark Plug, for instance, is

Stored at the work bench, yet occupying little productive space, parts for General Electric electronics equipment ride an unusual "ferris wheel." It's an electrically powered rack that moves at a flick of a switch, quickly brings needed items down to working level.

Fitted to its contents, this International Salt warehouse rates high in safety and efficiency. It takes advantage of the fact that salt, when allowed to flow freely, stacks in piles at a 32-degree angle. Sloping roof conforms to pile shape, and bin separators (lower right) make use of it. Though made of open slats, these separators can prevent salt in one bin from entering the next. Bins are filled from above by conveyor shown at far left.

STORAGE . . . *continued from page 57*

saving over 50,000 square feet of storage space by arranging for six-hour delivery from its carton vendor. What if the carton plant burns down? The vendor has warehouses in two widely separated locations, and AC also keeps an up-to-date list of possible alternate suppliers. It also has one carton-making machine of its own which can be pressed into service if needed.

Storage costs are a lot like a garden hedge. They get out of line almost overnight unless frequently and carefully pruned. Storage is not one of the problems that can be solved and forgotten. The all-too-human tendencies to collect and hoard the useless, to skim the cream off each bin without ever bothering to see what's at the bottom, to misplace and mislay—all keep the storage pile growing and storage costs on the rise.

As J. D. Walter, G-E materials manager, told an American Management Association Special Conference on Production, "There appears to be a place in every factory where rejected lots of material find a resting spot until some wild-eyed expediter is desperately in need of that particular item.

"Once a shipment has been rejected, it seems that everybody loses interest in it . . . and when the item does at last show up on a storage sheet, it is too late to handle [it] in an economic manner."

The same is true of obsolete tools and dies and outmoded products. It happens to new, usable items, too—and that's doubly expensive. When an acceptable lot is misplaced, it not only takes up space, but will probably have to be remade. That means extra production expense and extra waiting time.

Before you decide that this kind of thing can't happen in your plant, take a careful look around. A recent Department of Agriculture study of six modern, one-story warehouses showed efficiency could be increased 10 to 30 per cent by improvements in work methods and equipment. And these warehouses were considered to be better than average to begin with.

This study makes several important points:

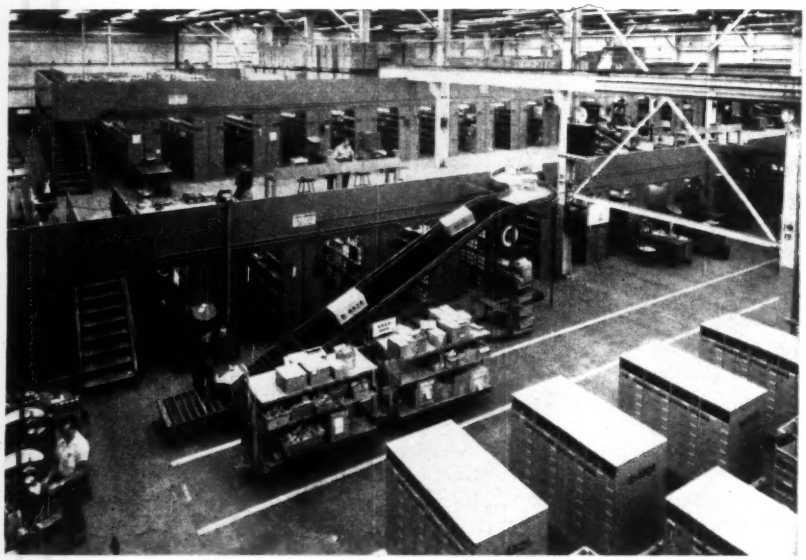
continued on page 60

Saving space and

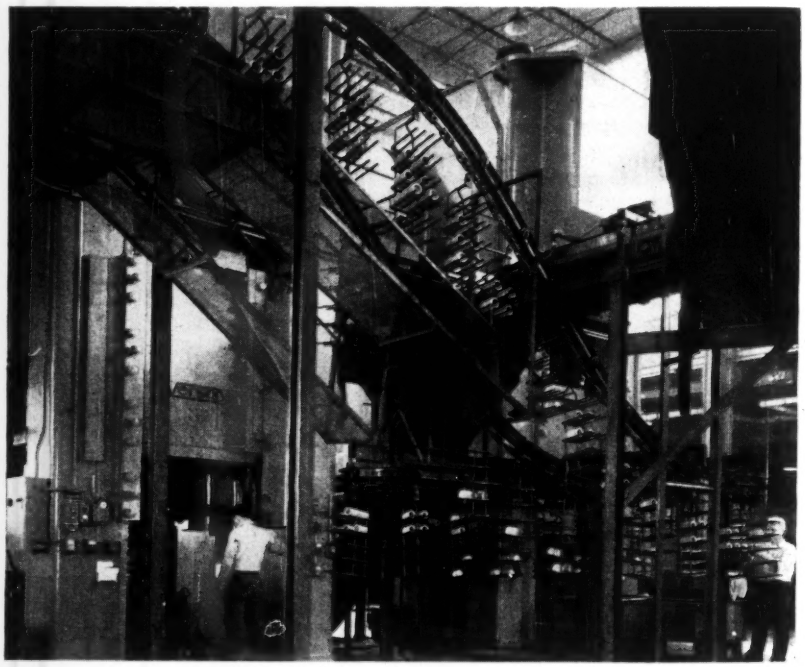
Are you, without knowing it, wasting as much room as you use?

Many companies conduct operations under cramped, even hazardous, conditions while letting perfectly good space stand idle.

Where is that space? Some of it is overhead—above the working area. Much of it is right on the floor—occupied by useless, outmoded stock, unneeded dunnage, poorly arranged pallets and bins, and aisles that are



Mezzanines give Douglas Aircraft stock room one-third more space than would otherwise be available. Reversible conveyor moves parts up as well as down. Note good lighting and placement of scales; large, easy-to-read location markings; and adjustable shelves.



Live storage conveyors take to the air to save space, store parts, as they move to and from cold extrusion presses at Heintz Manufacturing Company. This type of installation can be used for cooling, drying, or aging materials as well as for storage and travel.

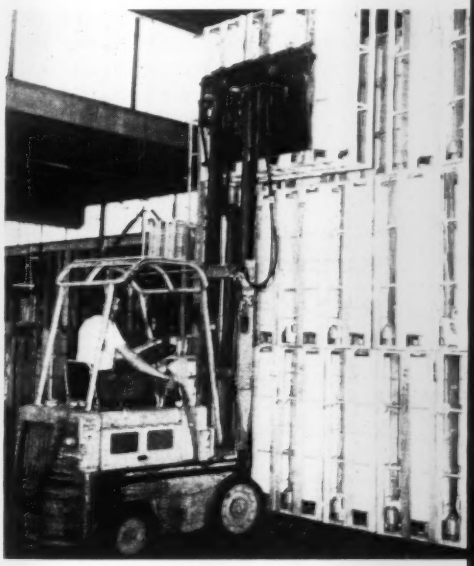
speeding service

much wider or more numerous than they should be.

The pictures here show how a number of companies have put their waste space to work. In doing so, they gain more room for productive operations and improve the efficiency of their storage systems. They can offer better, faster service, and they are reducing inventory losses.

Perhaps none of the solutions pictured here will solve your particular problem. But they do prove that, in almost every industry and every type of plant, there *is* a way to improve storage methods and cut storage costs. Checkpoints on the following pages will help you find out how.

Overhead crane permits aisle-less storage in St. Regis Paper Company warehouse, makes it easy to locate any desired item. Note, too, the side conveyor (left) that carries rolls in and out of area, eliminates manual handling and provides for continuous movement.



Special gripping attachment for wirebound crates eliminates pallets, allows three-level stacking where only two might fit.

Tray hoist lets Gulf Oil use every foot of space in laboratory stock room. Mobile column is suspended from overhead track.

The great outdoors is still a good storage place for many materials. But even here, space costs money. American Steel & Wire uses its space wisely by providing neat, clearly marked storage racks, installing gantry crane to facilitate movement of supplies.

STORAGE . . . *continued from page 58*

First, it emphasizes how frequently plants overlook such common cost-boosters as the time wasted in hunting for items which should be located immediately, and in waiting for handling equipment that is needed to lower merchandise from overhead racks, or to bring items from auxiliary storage areas.

Second, the study points up the fact that the obvious solution to warehousing problems is not always the best. In loading and unloading pallets, for example, two men are not necessarily better than one. The productivity *per man-hour* of one man working alone averaged nearly 40 per cent greater than that of a two-man team. Why? Many elements of storage jobs actually require only one man (moving a hand truck, for instance) and the second simply has to stand by and wait. Even when both might be working, the space available may make it difficult. Then, there are always the human problems of conversation and horseplay.

A third important factor in storage cost reduction is the equipment for the job. Great strides have been made in the past few years in automatic handling, in design of racks and bins, and in development of flexible, maneuverable handling equipment.

Collapsible racks, nesting racks, and build-it-yourself sections are now available so the storage facilities can be fitted to the product and the space available.

Electronically controlled conveyors make parts selection and order-filling nearly automatic.

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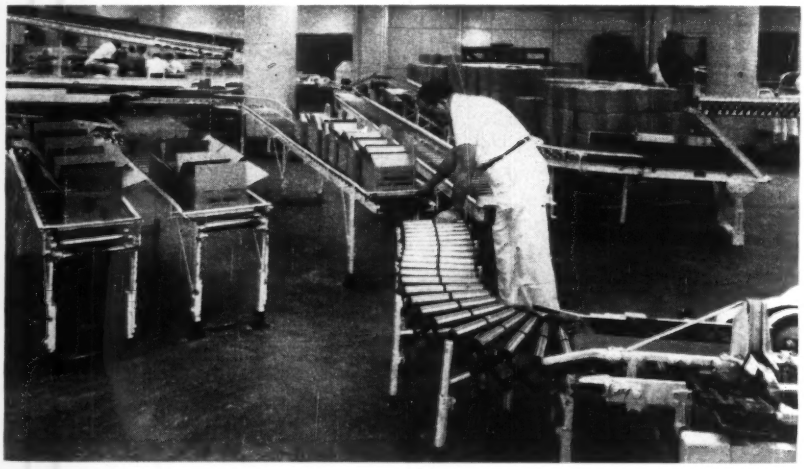
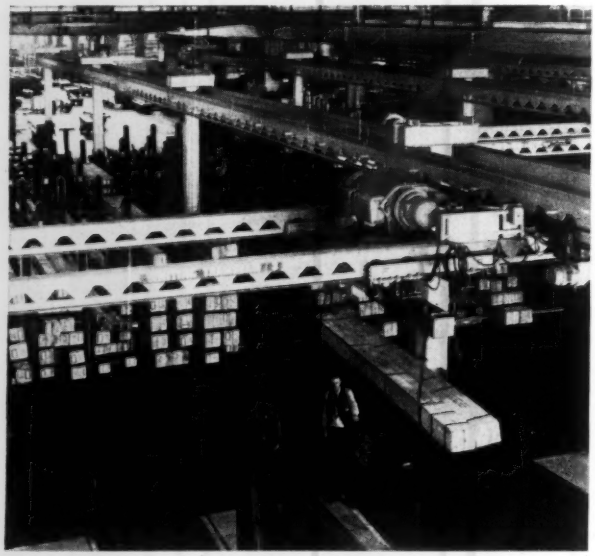
Keeping them on the move

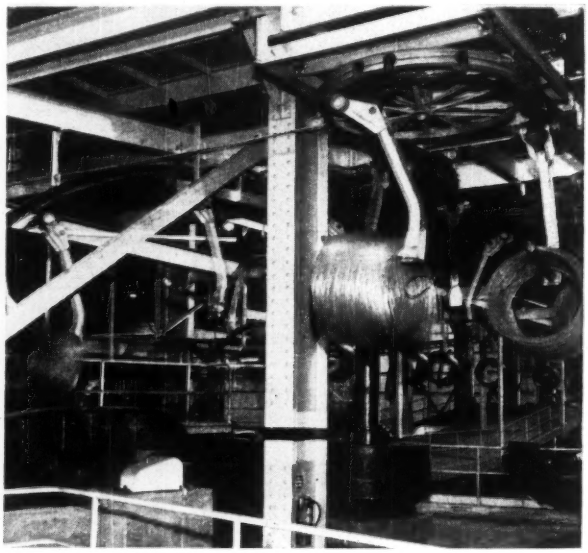
Getting products in and out of storage is just as important as storing them properly. And that calls for a good handling system with geared-to-the-job equipment. The photographs here concentrate on conveyor systems. But there are many ways to provide flexibility and assure nonstop travel of parts and products. For instance, when travel routes are long and tortuous, short-line "portage" conveyors and pass-through windows can make it possible to connect handling systems in one area with those in another.



Flexible, portable conveyors make it easy for Parke, Davis to switch products and packages from one line to another and take them to and from storage. Permanent installation would block cross-travel, make it difficult to adjust to production changes.



Multiple cranes and transfer sections cover production, storage, and shipping areas at Chase Brass and Copper. The runway on this Whiting Trambeam crane extends back 160 feet into the plant.



Aerial merry-go-round serves as interchange between main rolling mill conveyor and those going to inspection and storage at American Steel & Wire, permits safe, nonstop travel of hot metal.

DUN'S REVIEW and Modern Industry

Executive check list

How to store more in less space

Well-planned layout, carefully chosen equipment, and an efficient control system to back them up, are the secrets of storage cost reduction. Use these points as a test to make sure that:

☐ The storage area is in good condition—with well-paved floors, able to stand the required loads, and a good ceiling.

☐ Lighting is adequate, not just for getting around, but also for safe handling and accurate label-reading.

☐ There is enough heat for comfort and product protection, but no area is overheated.

☐ Air conditioning has been considered as a means for prolonging product life.

☐ Enough racks and bins in the right assortment of shapes and sizes are provided.

☐ Rack arrangement, pallet-stacking patterns and container sizes have been carefully tested to find those which are most practical and economical.

☐ Demountable racks and portable stacking fixtures are used to increase storage area flexibility.

☐ Aisles are as narrow as they can or should be. (With new, more maneuverable handling equipment, it may be possible to cut aisle space in half; and use of overhead handling can often make it possible to eliminate aisles entirely.)

☐ Area and label markings are clear and easy to read so workers won't waste time trying to read them, and are less likely to make mistakes.

☐ Most frequently needed units are stored in most easily reached areas.

☐ Automatic feed-out racks, tilting bins, and automatic conveyors are used where volume is high and turnover rapid.

☐ Scales, cutting and strapping machines, and other auxiliary units are placed in storage areas, and kept in good condition.

☐ Up-to-date handling equipment—with accessories for turning, up-ending, dumping, and so on—is provided in sufficient quantity so no one has to waste time grappling with unwieldy items.

☐ Storage operations are scheduled so that adequate service can be maintained without adding extra employees.

☐ Materials are received and stored in the safest, most durable, and easiest-to-handle form. (Chemicals, for instance, may be much easier to store and use if they're handled as slurries or fluidized solids, rather than as pellets or briquettes.)

☐ Products and materials are standardized to minimize the number of types to be stored.

☐ Special safety hazards have been taken into account in selecting equipment and in building the storage area itself. (Explosion-proof fixtures, nonsparking tools, and blow-out walls, for instance, can do much to reduce explosion hazards.)

☐ Product protection receives the attention it deserves. (It does little good to provide covers for bins if those covers are left off half the time, or to stack boxes neatly if trucks are going to bump into them.)

☐ Rejected and obsolete stock and worn-out tools and dies are regularly surveyed to keep them from accumulating.

☐ Foremen and workers understand the importance of good storage methods and will cooperate in storage cost reduction.

☐ Purchasing, production, shipping, and other operations related to storage are closely coordinated so materials and parts are on hand when needed, but do not pile up waiting to be processed or shipped.

☐ Full advantage is taken of technical data and engineering assistance offered by materials suppliers, builders of materials handling equipment, trade associations, and government agencies.

STORAGE . . . *continued from page 60*

Short-length fork trucks and crane-supported racks and lifts make possible holding aisle space to a minimum or even eliminating aisles completely.

It's no exaggeration to say that the storage installation which was "modern" five, or even three, years ago may be obsolete today.

Location of storage facilities in production areas is another question that deserves plenty of attention in manufacturing plants. If, for instance, storage cribs for tools and supplies are far from the production units they serve, or located across heavily travelled aisles, production workers may have to waste a good deal of time going back and forth.

This particular problem can often be solved with live storage conveyors, or by providing for storage of materials and parts at the work place (see page 57). Other special handling equipment—a pneumatic tube system, perhaps—can be installed to take "orders" from the production area to more distant storage locations and to bring needed supplies.

Each plant, of course, must find its own best solution, but the important thing is for management to recognize that a problem exists and to make sure that a solution is found.

In reducing storage costs, as in so many areas of plant operation, management's job lies in coordination and control of the activities of every department as they affect storage costs, in providing for constant review of what is stored, and in making sure that facilities are the best available for the job at hand.

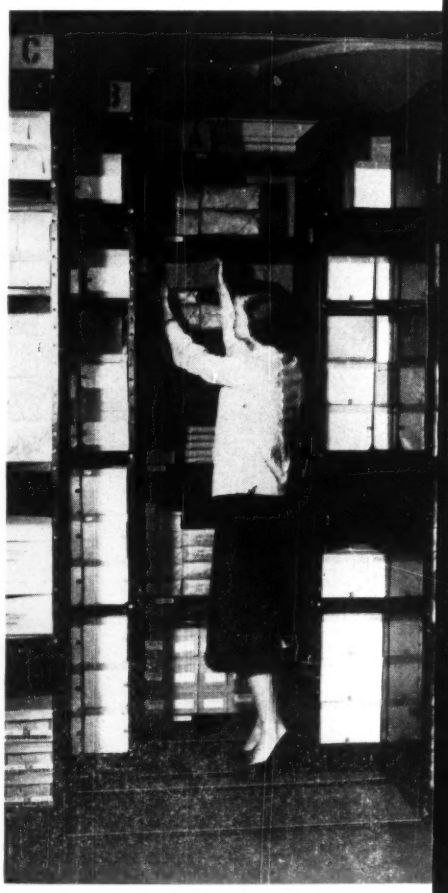
(Note: For additional information on storage and warehousing, see October 1954, page 32, and September 1955, page 75. Reprints of the latter article, a 32-page special emphasis feature on Better Handling, are available for 25 cents. Address: Industrial Editor, DUN'S REVIEW AND MODERN INDUSTRY, 99 Church Street, New York 8, N. Y.

Racking up savings

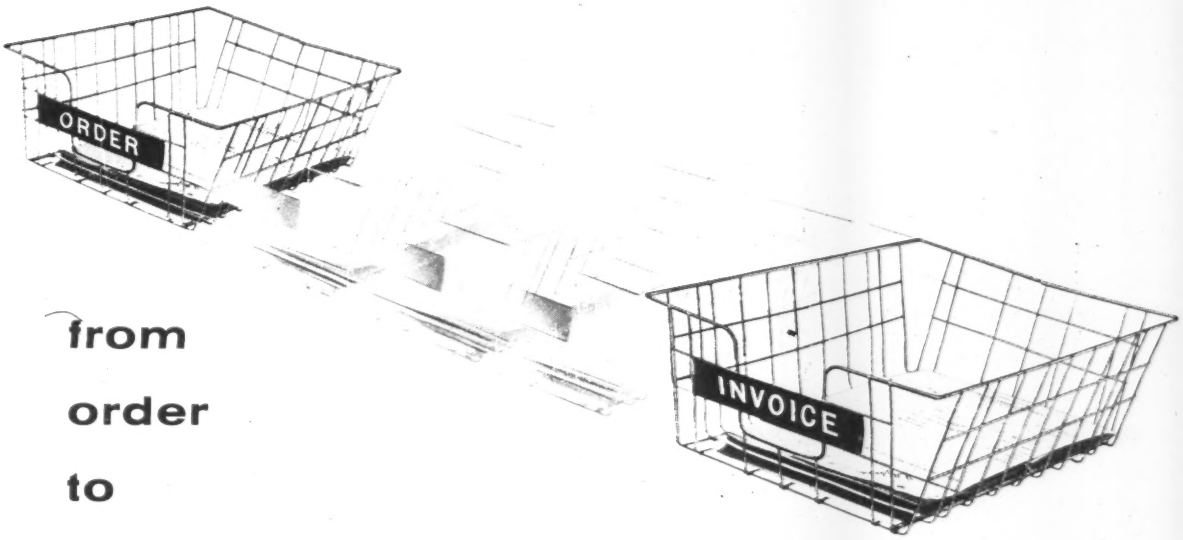
Build-it-yourself channels, collapsible wire racks, nesting and tiering sections . . . these are only a few of the storage aids that are now obtainable. The pictures here show how some of them can be put to work.

Prepunched channels that can be put together like an Erector set make it possible to store a wide variety of materials with a minimum waste of space. Publishers Printing-Rogers Kellogg Corporation uses them in many areas of its new Long Island City plant.

Inclined storage racks, built by Arteo, cut space requirements in half at Holo-Krome Screw, make inventory turnover automatic, simplify stock picking, minimize product loss and damage. This type of installation is becoming increasingly popular in industry.



Like sliding doors, Dolin Metal Products storage racks roll back and forth as needed. One service aisle can serve many rows.



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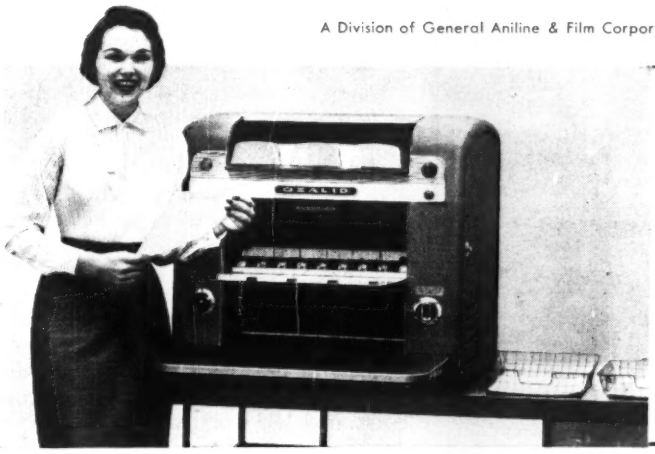

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RULE BOOK . . . *continued from page 44*

thing uncommon but more appropriate.

Is it ever wrong to be right, you may ask? Why, being right is what most of us strive for in what we do.

Yet there are times when being right amounts almost to an affront to others. Best example, of course, is the old "I told you so" situation, where the individual not only was right, but takes your time and destroys your temper by reminding you of it.

A typical example, in the experience of many executives, is the subordinate who has received the benefit of your good advice in arriving at a decision.

Despite all you've said, he goes in the opposite direction—and flops.

Irritation, injured pride, possible dismay at the loss occasioned by the wrong move, all suggest that you remind the subordinate you were right and he'd be, too, if he'd followed your advice.

But there are many other things you could be, and to better advantage, than "right." Possibly you could be sympathetic. Or constructive, by telling him how to pick up the pieces. Or, enheartening, by minimizing his failure.

Realize, then, that the unconventional approach involves questioning even the basic concepts of "wrong" and "right": the "wrong" answer may work; you may forget about being right—and come out better in the end.

False Logic

Behind the conventional, unquestioned repetition of hackneyed approaches and ideas you'll often find a pseudo-logic. They seem to be common sense—and they're nonsense.

For example, your secretary comes to you with a bitter complaint about the lighting at her desk. Your first impulse would be, perhaps, to have an engineer come up and check the illumination. After all, it's the "commonsense" thing to do.

Trouble is, you suddenly realize that the girl has been perfectly satisfied with the identical lighting for years. Further conversation elicits the fact that your secretary is hopping mad because a secretary down the hall, to whom she considers herself senior, has just gained the distinction of having a small office built around her work area.

It's going to take uncommon sense

to handle the gripe that bothers her.

Just consider another case where literalness, "going by the letter," may be a handicap:

The head of a warehousing section is told by his superior: "We're facing a hectic month. Be prepared to handle 50,000 cases."

The words couldn't be clearer. But should the warehousing head act according to the *literal* sense of his boss's words? Most people would—but let's see if there may not be a wiser course.

Fifty thousand cases, the boss has said. It would be a tight squeeze, but by arranging and rearranging, using every last inch, adequate space could be provided.

But let's say the warehousing head had a brainstorm. He decided that he'd make preparations for 60,000 cases. It would take even more effort, more careful planning. But the extra effort would pay off—

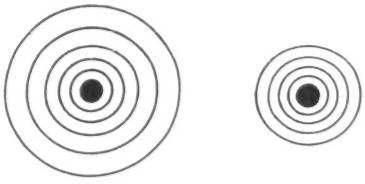
. . . if the 50,000 cases came in, they could be accommodated with ease.

. . . the boss might have underestimated. In that case, the department head might find himself in the pleasant situation of being able to say, when the boss came along with the sad news of the overage, "Don't worry, Boss, I'm all set."

Psychology's on Your Side

One of the principles involved in the example above has been studied by psychologists, and laboratory-tested repeatedly. Results indicate that there's a benefit to be gained by putting aside the "commonsense" rule that, if you're shooting at a particular target, you should accustom yourself to hitting that target.

Here's the problem in visual terms. Suppose you have two targets:



Executive A practices with Target A.

Executive B practices with Target B.

Assuming the two executives are on par to begin with, and they both practice the same amount of time,

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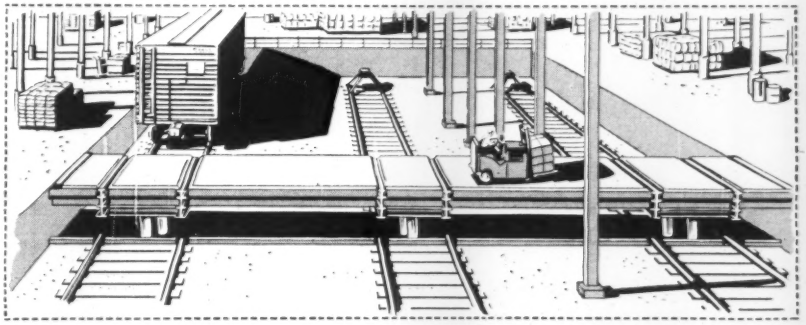

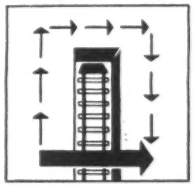

MANY PLANTS have internal railroad sidings which cut a recessed path across a factory floor or shipping dock area. The convenience of loading rail cars is partially offset by the cost of detouring internal traffic from one side of the track platform to the other.

An oil-hydraulic powered Bridge Lift installed across the track recess will provide a short-cut route which often-times pays for itself during the first year of use.

Time required to move materials straight across the rail siding is sometimes as little as 1/10th of that for the long trip around. Applying this saving to manpower and equipment means a substantial, continuous return on the Bridge Lift investment.

The Globe Bridge Lift illustrated above provides a two-lane route for heavily loaded fork trucks across three tracks. Three pairs of oil-hydraulic cylinders raise and lower the platform with its built-in track lengths. In the down position, the rail route is clear. In a matter of seconds, the bridge is raised for cross movement of men and materials.

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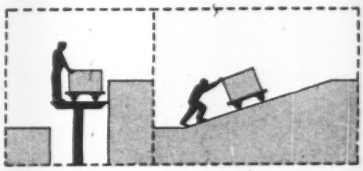

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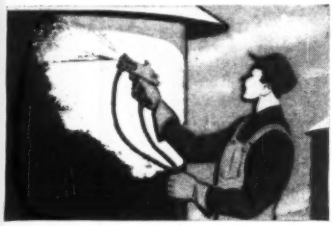

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which one will turn in the better performance? Which one will improve in his marksmanship sooner?

Psychologists tell us that Executive B will make a better score, right from the start. Professor C. A. Mace, writing in *Occupational Psychology*, explains it this way:

In both cases, the purpose is to hit the bull's eye. But the size and number of the rings provide different frames of reference. The larger target has the effect of making "good enough" or a "near miss" much easier to achieve. Executive B, with a more difficult target to hit, must set himself a higher standard of performance. And it becomes comparatively easy for him to beat out Executive A.

Out the Window with the Greatest of Ease

Getting back to the figure of speech we've been using, throwing the book out the window, some of us can make the toss easily, but some of us may find it a real struggle. The personality trait that determines where we fall between these extremes is *flexibility*.

A rough measure of the degree to which you possess this quality can give you some insight into how much or little effort you'll have to make to put aside the ordinary for the extraordinary. The quiz starting on page 69 is designed to give you a rule-of-thumb answer.

Six Side Roads to Success

The offbeat approach to planning and problem-solving can be achieved in a number of ways. Here are six suggestions you may want to consider as an ever-ready arsenal, to be put into action when you're not getting the results you want:

1. *Reverse the field?* Ask yourself, "What would happen if we did just the *opposite* of what we've been doing?"

2. *Apply the brake?* Can you eliminate the situation—entirely or in part?

3. *Intensify the effort?* You've been wrestling with a situation, getting nowhere. Can you increase your commitment—the budget, the people you've put into it?

4. *Expedite the effort?* Where you've gone slow, go all out?

5. *Give time a chance?* Instead of pursuing an energetic course of action, go slow, if time is likely to strengthen your hand?

6. *Consider a gamble?* Where stakes are not overly large, should you take a gamble on the chance of big returns—giving a youngster a king-size assignment, for example, that might pay big dividends?

How Flexible Are You?

Answer the questions below as accurately as possible. Even if you're able to spot the "right answers," try to indicate what you would actually do in the situation described. You'll find scoring directions at the end of the quiz.

1. You're in a room with three or four other executives. They're all wearing grey flannel suits; yours is brown tweed. Your reaction if you noticed their garb at all would be—
☐ a. To smile to yourself at their conformity;
☐ b. To suggest jokingly that they appear "out of uniform" at your next meeting.
☐ c. To feel uncomfortable at being incorrectly dressed.
☐ d. To make a mental note to wear your grey flannel next time you are in similar company.

2. Your office is to be moved to a different floor because of some structural changes being made in the building. Your feeling is—
☐ a. Regret that you'll be leaving a place to which you've become accustomed.
☐ b. "Fine! New surroundings will be a welcome change."
☐ c. Interest in seeing that the new set-up will be as good as the old.

3. You're in a conference, called to decide whether or not the company should expand operations by going into a new field. Your probable course, other things being equal, is—
☐ a. To argue for the move.
☐ b. To argue against the move.
☐ c. To argue for the move on condition that a careful study indicates good chances for success.

4. Your boss calls you into his office. "Jack," he says, "I've been wanting to talk to you about your job, but I don't know just how or where to begin. Now I want you to ask me for a raise. I think that will trigger the things I have to say." You would—
☐ a. Say, "Boss, I'd like to have a boost of $20 a week, retroactive to the first of the year."
☐ b. Say, "I couldn't, Boss. Let's wait until you can get going under your own steam."

Going up!

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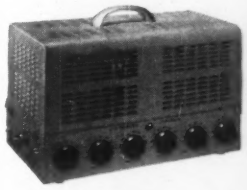

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☐ c. Say, "Boss, our relationship must be getting awfully weak if you can't come right out and tell me."

5. Your boss calls you into his office. "Henry," he says, "Let's go through our usual routine of discussing last week's problems. I'm not sure we're getting much benefit from this procedure, but I feel it's better than not doing anything at all." Your reply is—

☐ a. "Sure, just as you wish. . ." and then you launch into the kind of monologue featured in the past sessions.

☐ b. You tell him, "Since we're not getting satisfactory results, why not change our approach? How about . . . ?" and you suggest a couple of new methods.

☐ c. You say, "If you feel it's a waste of time, why do it at all?"

6. A customer is on the phone, telling you he's got to have delivery on an order by the end of the week. You tell him you can't make the stuff up to the standard of quality he wants, and ship within the time limit he's set. He insists. You insist. Then—

☐ a. You tell him, "I'm sorry, Mr. White, but you're being unreasonable. No matter how much we'd like to, we just can't satisfy your request." And that's your final word.

☐ b. You ask him whether he could use material of the lower quality that would result from a speed-up.

☐ c. You say, "There is a possibility that we could get the work out on time, but it would mean running on a three-shift basis, and we're only set up for two. Would you be willing to pay for a three-shift schedule?"

7. You've just hired a new secretary. She's a good, capable girl who insists on dusting your desk every morning. Trouble is, she has her own ideas of how your desk equipment should be arranged: She puts your in-out box at the right instead of the left, puts your phone at the back of the desk, and so on. Would you—

☐ a. Let her have her way.

☐ b. Make it very clear that you have your personal preferences in the matter of desk-top arrangement, and order her to place the items the way you've always kept them?

☐ c. Ask her why she feels her arrangement is better?

8. You've made it a practice to have lunch with one of your colleagues every Tuesday. He calls you in the morning to say he can't make it. Which would be your move—

☐ a. Phone another friend or acquaintance, and try to set up another lunch date?

☐ b. Feel quite disconcerted, go to lunch alone, and find yourself at loose ends for the entire hour?

☐ c. Go to lunch alone, and enjoy the unaccustomed pleasure of an hour's solitude?

9. You get out of bed one morning, see it's a little late, shave, gulp breakfast, and dash off to the station. To your surprise the platform is practically empty. Then you realize it's Sunday morning. Would you—

☐ a. Try to sneak back into bed without waking your wife so that you could keep the incident a secret?

☐ b. Feel the incident proves you're too deep in the rut, and cast about for some way of easing up?

☐ c. Decide to go into town anyway, to clean up a couple of overdue matters at the office?

Scoring First, realize that any one question by itself isn't too significant. Many of us can be flexible in some areas—matters of dress, personal working habits, for example—but inflexible in others—time schedules, off-the-cuff reactions to abrupt changes.

However, a very high score on the quiz is probably a favorable indication of your flexibility in general; a very low one is apt to be unfavorable.

Start by giving yourself a perfect score, 90 points. Then, *subtract ten points* for these "wrong answers": 1. c or d; 2. a; 3. b; 4. b; 5. a; 6. a; 7. b; 8. b; 9. a.

Here's the rating scale:

70–90—You're as adaptable as a good boxer.

40–60—You tend to freeze a bit at the edges. Ease up.

Below 40—A bit of rut-busting might do you a world of good.

THE AUTHOR • Auren Uris, editor of the management development program of the Research Institute of America, first became interested in executive techniques when he was owner-manager of a small custom-molding shop. Later he was a member of operating management at Celanese Corporation of America for six years.

Mr. Uris is now a frequent contributor to technical journals and popular magazines. His latest book, *Developing Your Executive Skills*, was an Executive Book Club selection.

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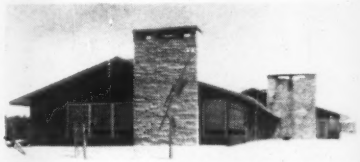

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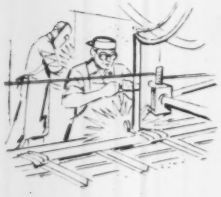

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HIGHLIGHTS *and sidelights*

comment by

Harvesta R. Gardner

Handling accidents

Do you know what percentage of the accidents in your plant is directly attributable to materials handling? Not many companies do.

Over-all industrial figures are even harder to find. There are a good many "educated guesses." But the systems now used in most official classifications make it almost impossible to separate the handling accidents from other types. Accident causes are divided into such vague categories as "miscellaneous falling objects."

One of the closest approaches to a clear-cut listing is that of the New York State Workmen's Compensation Board. Under separate headings it lists accidents caused by hoisting apparatus, conveyors, power trucks, and hand and foot vehicles. Then, the New York State agency classifies "accidents attributable to miscellaneous objects" on the basis of object type—hard-to-handle items, sharp or rough objects, objects that rolled or tipped over, and so on.

Putting the New York figures together, it would seem that at least one-third of all compensated cases are related to materials handling. We'd like to know if other figures bear this out. What do your plant records show?

Does management care?

Does management care about such "little" things as fasteners and valves and casters? Does management care who makes them?

The answer is "Yes:"

First, management cares about anything that can increase production or interfere with it. The company president may not know what type of material or type of piping is being bought most of the time—but let the material or piping fail and damage the plant or interfere with production, and he'll find out—fast.

Second, "management" in most plants is *working* management. Less than 15 per cent of the plants in this country have more than 100 employees; more than 80 per cent have

See them now

The telephone that transmits pictures along with sound is on its way, Bell Telephone Laboratories reports. The laboratories now have an experimental "picture phone" shown above, which transmits over standard low-frequency telephone channels and requires only one additional wire connection for installation. Comforting thought: Pictures are not transmitted unless both caller and listener have the proper switch turned on. Executives don't have to wait for the picture phone to see who's calling, though. As Siegler Corporation Vice President Robert L. Purcell demonstrates here, a closed-circuit TV system can act as a "silent receptionist" to show who's coming in the front door. This system, designed by the company's Hallamore Division, is actually installed at Siegler's new offices in Chicago's Merchandise Mart.

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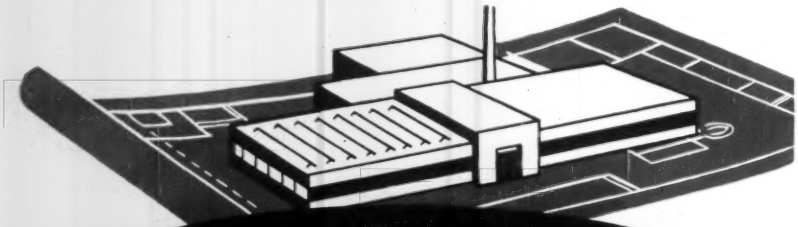

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UNTIL YOU INVESTIGATE THE ADVANTAGES OF—

USP PALLETAINERS

HI-LODE

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Palletainers are basic . . . as essential to your plant as heat, light—brick and mortar. Why then, plan a new building, an expansion of facilities without first considering the prime importance of Palletainers for fast, safe and convenient movement and storage of your products?

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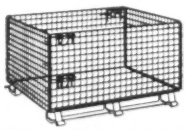
Then, too, Palletainers cut your shipping costs. They are virtually indestructible and eliminate transit damage on any carrier.

To better suit your needs, Palletainers are available in a broad range of sizes, types and capacities. Regular models incorporate the famous exclusive Palletainer safe stacking legs, locks, retainer links and practical "flat-fold" side feature.

If you are building a plant or planning an expansion, why not check the advantages of USP Palletainers—now?

WAREHOUSE



BEARING PLATE

BULK-LODE

UNION STEEL PRODUCTS CO.
Albion, Michigan

* Palletainers are manufactured in Canada by: CRONAME OF CANADA, LTD., WATERLOO, QUEBEC

USP

less than 50. That means the company president is likely to be the production manager—and probably the chief engineer as well. Even in the big companies where the president may no longer take an active part in shop operation, he often retains his interest in shop matters.

Here are a few examples:

Not long ago, a chemical plant engineer telephoned us in regard to an article describing new corrosion-resistant metals. He explained that, in his plant, corrosion in one group of valves was causing a lot of trouble. Could these metals solve the problem? "I haven't seen the article," he said, "but our executive VP is reading it now. He said to call you right away and get the names of the suppliers."

That's evidence of management interest. Still, does the company president or executive vice president concern himself with the specific brand of a standard material—with the individual supplier? Our materials survey (September, page 66) showed that top management can and does dictate the choice of suppliers, and pays close attention to such factors as engineering assistance offered and reliability of deliveries.

Sometimes, it is easier to sell the

You can take it with you . .

The demand for portable, operate-anywhere equipment is bringing a raft of new battery-powered units – everything from sales promotion pieces (see July, page 74) to office equipment (see September, page 18). Even the younger generation has a load of new items—all ready for Santa's pack. Aluminum Goods Manufacturing Company, for example, is making several battery-powered toys (of light-weight corrosion-

president himself than his engineers.

A caster salesman told us: "I wasn't getting anywhere with the engineers at a big chemical company, trying to explain that they'd save money by mounting reactors and packaging conveyors on casters. The production manager said it wasn't worth the trouble. Then I met the company president. I showed him how increased mobility could mean greater productivity, permit him to operate with fewer reactors and permit him to shift production lines around faster. He got the big picture—and I got the biggest order of my career."

Does management care? We think so, don't you?

Now it's official

For want of a good definition, industry-government conferences on standard specifications have bogged down, rail and motor classifications have been hard to establish, and customer-vendor relationships have been strained to the breaking point.

Not surprising, then, that the first action of the newly established Cellulose Wadding Product Group of

. . . Junior style

resistant aluminum, of course), including the vacuum cleaner and electric mixer pictured here. The toys really operate and they're priced at less than $5, complete with batteries. This year, too, Junior can have remote-controlled, battery-powered trains, trucks, and bulldozers, and electric drink mixers (for sodas, of course). And Dad can have a transistorized clock, said to run for five years on a single battery.

modern

Classic

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The scientifically formulated carbon coating is *deep dyed* to form a permanent bond with the paper stock fibers. The carbon is transferred *only* by impact of the type face to produce *permanent*, *smudge-proof* characters. Micro-blended for absolute smoothness, this new coating assures complete uniformity of upper and lower case characters.

The *shock-proof* back softens the *jarring action* of high-speed electric typing—the cause of unevenness produced by ordinary carbons. Only the exact amount of carbon necessary to create a sharp, full-bodied image is released.

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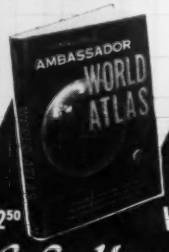

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the Tissue Association was to define its material:

"Industrial cellulose wadding is a material consisting of wood cellulose fibers formed into a creped sheet, available in bleached, unbleached, or colored stock in a wide variety of thicknesses and forms, such as sheets, rolls, plain, or embossed; as kraft papers, glassines, plastic films, or fabrics attached by glue, stitching, or by other means.

"It may also be varied by treatments such as absorbent, water-resistant, or fire-retardant. It is used largely as industrial or commercial cushioning, padding or surface protection material, and as a sanitary absorbent material."

This is air conditioning

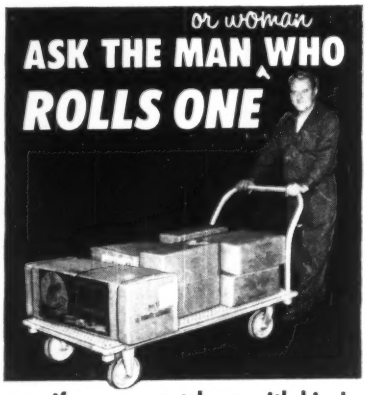
Materials aren't the only products that suffer from a lack of a good definition. The American Society of Heating and Air Conditioning Engineers points to the confusion caused by lack of a clear understanding of what constitutes conditioned air. This association, too, has now taken action. Its definition:

"Air conditioning is the process of treating air so as to control its temperature, humidity, cleanliness, and distribution to meet the requirements of the conditioned space."

Coal on the line

It looks like a drainage system or an oil line, but this pipe will carry coal from the Hanna mine at Cadiz, Ohio, to Cleveland Electric's Eastlake plant—a distance of over 100 miles. By piping pulverized coal in slurry form (suspended in water) instead of transporting it in the usual way, the company expects to improve the reliability of its fuel supply and reduce its costs. The system is a good example of the trend toward fluidized handling of materials that offers new advantages in many fields.

ASK THE MAN or WOMAN WHO ROLLS ONE



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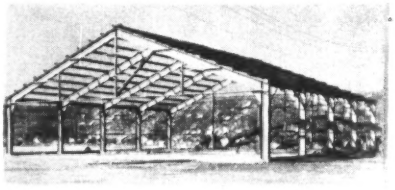

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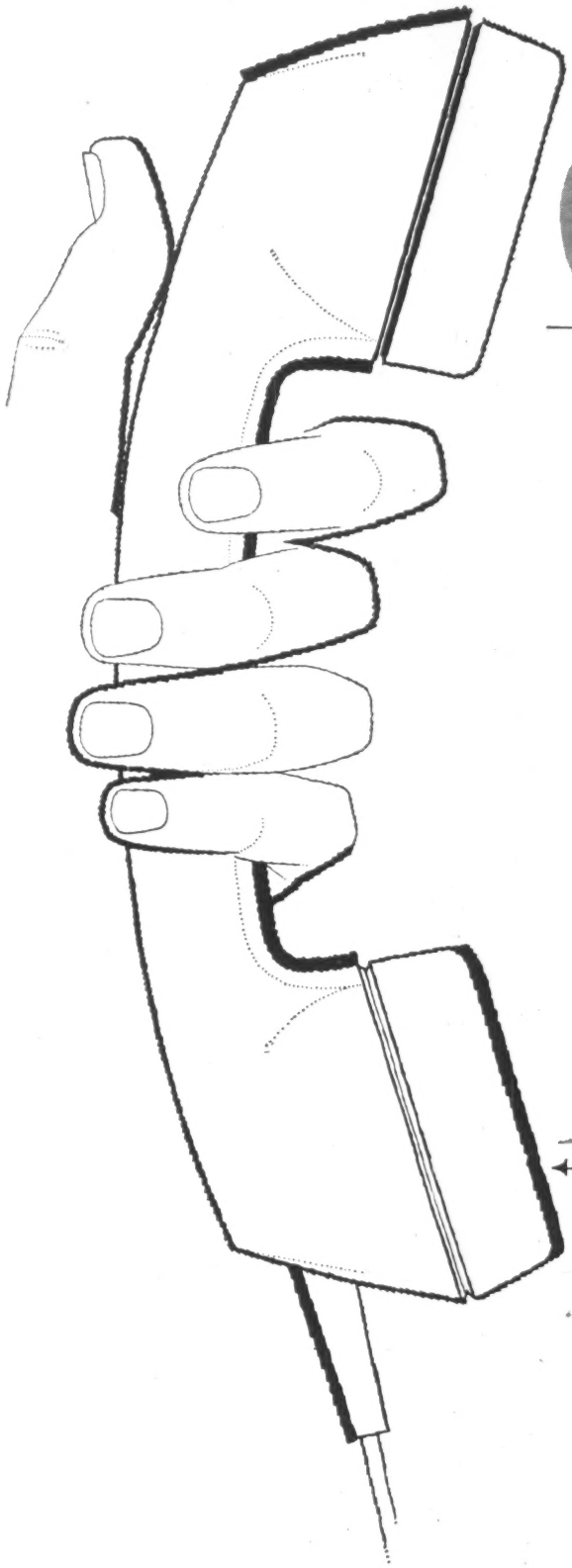


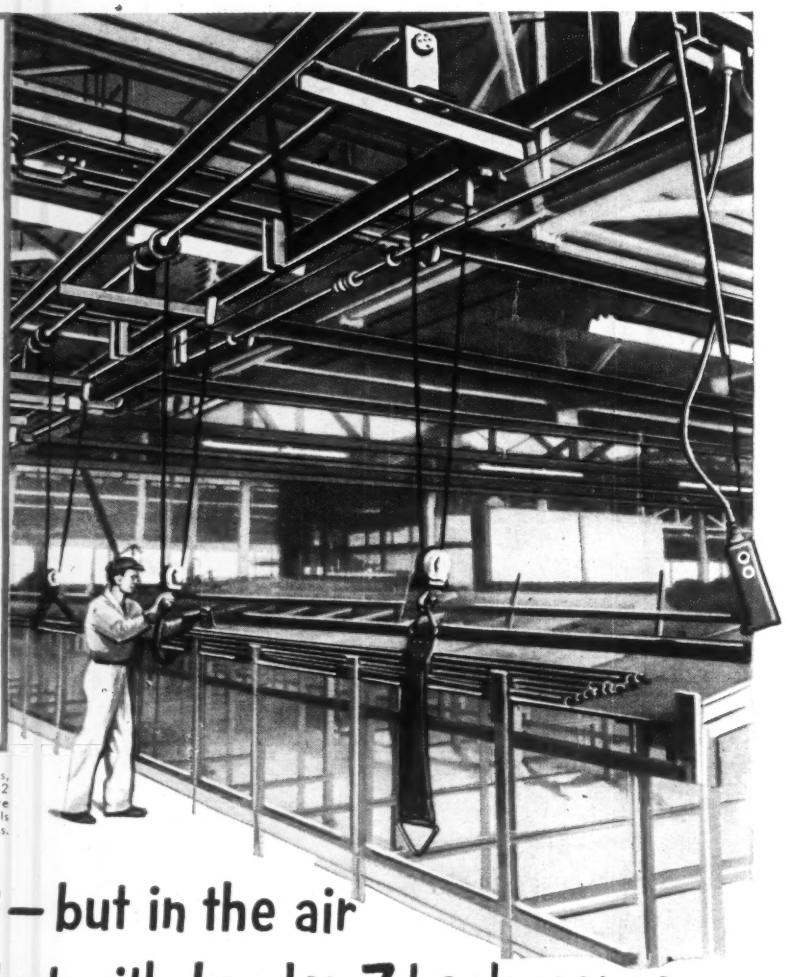
Q Why should Western Electric try to do all it can to keep down its prices for telephone equipment sold to the nation's Bell telephone companies? After all, isn't Western Electric one of the Bell System companies?

A The very fact that Western Electric is part of the Bell System is the reason. We naturally share the System's objective: the best possible telephone service at the lowest possible cost.

Western Electric

MANUFACTURING AND SUPPLY UNIT OF THE BELL SYSTEM

Flowchart of operations. At top, lengths of tubing are extruded over mandrels. First Louden 7-hook crane picks up bundle and carries it to let-off table beside braiding machine. Tubes feed through braiding machines onto take-off tables. Second Louden 7-hook crane carries a bundle to next station where tubes are fed through lead-coating press to curing trays. Third Louden 7-hook crane lays hose on vulcanizer cars which carry load into and back out of vulcanizer. The same crane carries the lead-covered hose to temporary storage for feeding through lead stripper and onto rack whence Louden Crane No. 2 carries bundle to mandrel-removing table. Hose goes to finishing operations and No. 2 Louden Crane carries mandrels back to transfer cars at top.



End of the road. Hose has passed through the lead press, vulcanizer, and lead stripping operation. Louden No. 2 crane is picking up load to carry it to the station where mandrels will be removed. Crane will pick up mandrels and carry them back to the beginning of the entire process.

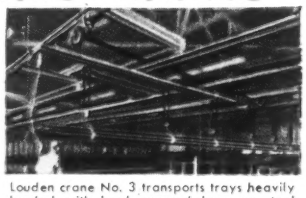
WHERE ELSE ?—but in the air

HOW ELSE ?—but with Louden 7 hook cranes

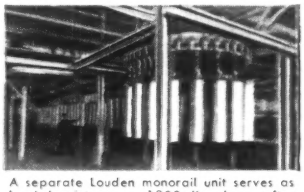
Awkward lengths of soft rubber tubing are handled swiftly yet gently through B. F. Goodrich 5-step processing

B. F. Goodrich built a new, modern plant near Marion, Ohio, for the conversion of 62 foot lengths of soft rubber tubing into fiber and wire braid reinforced hose for aircraft, automotive and other use. The problem presented was the swift yet safe and gentle handling of bundles of the delicate tubing each pulled over a 62½ foot steel mandrel, to and from each of the 5 process steps involved. The solution was found in 3 long Louden cranes, each crane equipped with a 7-hook hoist and B. F. Goodrich flat belt slings, each crane taking up where another leaves off to span the entire area, to speed the work, vital in the smooth production flow in this plant.

All of this points to the one reason why people buy Louden Overhead Handling Systems. That reason is—*to make more money* . . . via economies, expedited handling, a much more productive use of manpower and floor space, or through sheer increased production. The question is: can *you* make more money with Louden? We believe you can. Here's why: *Louden has the experience.* Our book on materials handling is a collection of case histories that show where we've been and what we've done —with photographic proof. *Louden has the engineering.* It has pioneered many developments now standard practice in the industry. And Louden comes up with new answers when new questions are asked. *Louden has the equipment*—to *do* what the job calls for. Significant for you is the number of *big* companies that select Louden. They choose on a more solid basis than guesswork. You should too. A letter, phone call or wire will bring the expert and satisfying counsel of a Louden engineer at once.



Louden crane No. 3 transports trays heavily loaded with lead covered hose on steel mandrels to lead stripping operation. Crane is equipped with heavy steel spreader bars to do this job.



A separate Louden monorail unit serves as lead-slug storage. 1200 lb. slugs, after being cast are hung on this monorail. When needed, lead slugs are pushed along track to lead press.

THE LOUDEN MACHINERY COMPANY
6211 Broadway, Fairfield, Iowa
A Subsidiary of Mechanical Handling Systems, Inc.

Louden
MONORAIL & CRANES
SINCE 1867...THE FIRST NAME IN MATERIALS HANDLING

CHRISTENSON..*continued from page 45*

gardless of negligence and consequently do not have the right to sue the employer at common law for injuries within the Act.

Thus the basic philosophy of workmen's compensation starts out with the idea that "fault" is something to eliminate, whether the fault be that of the injured employee, his employer, the equipment, or a fellow employee. Whenever a worker gets hurt or killed at work, the employer is going to pay either him or his dependents a specific sum of money no matter whose "fault" it was, or whether it was anybody's "fault" or not.

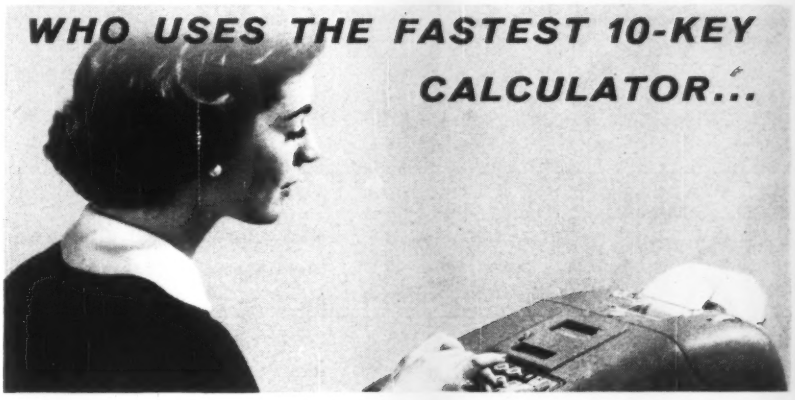
In addition, history of the legislation shows that state legislators intended to enact compensation laws to cover these fundamental points: (1) provide certain prompt and reasonable compensation to victims of work accidents and their dependents; (2) free the courts from delay, cost, and the tremendous work load of this mass of personal injury litigation; (3) relieve public and private charities of the financial drain caused by uncompensated industrial accidents; (4) eliminate economic waste in payment of fees to lawyers and witnesses, and save the time consumed by trials and appeals; and (5) supplant concealment of "fault" in accidents by a spirit of frank study of causes, thereby making it easier to eliminate preventable accidents and reduce cost and suffering.

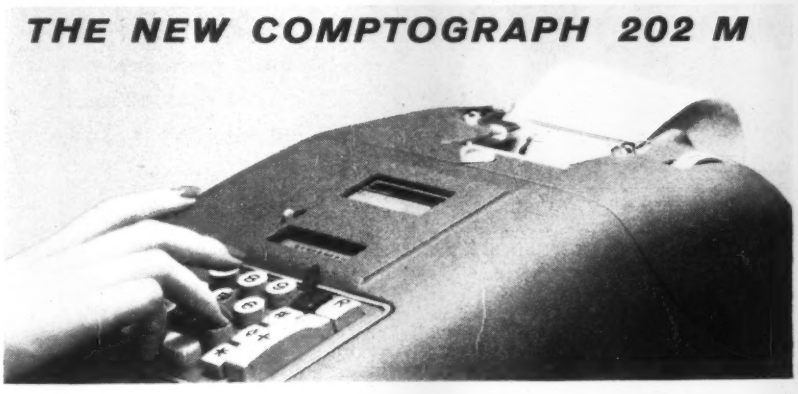
Constructing the "Model"

As the states have developed their laws over the past 40 years they have ironed out thousands of complex and technical questions in a manner consistent with their economic and political structures and their administrative processes and abilities. Each state has attempted to develop the program that would serve its own people best.

Dr. Larson and his associates have gathered together all the state laws, selected what they consider the best features of each, shaded a few of them a little, put them together in one bill 91 pages long, and called it a "model."

By shading a few of the most extreme provisions in a few states in a few particulars they have put themselves in position to recommend extremes in many other sections and





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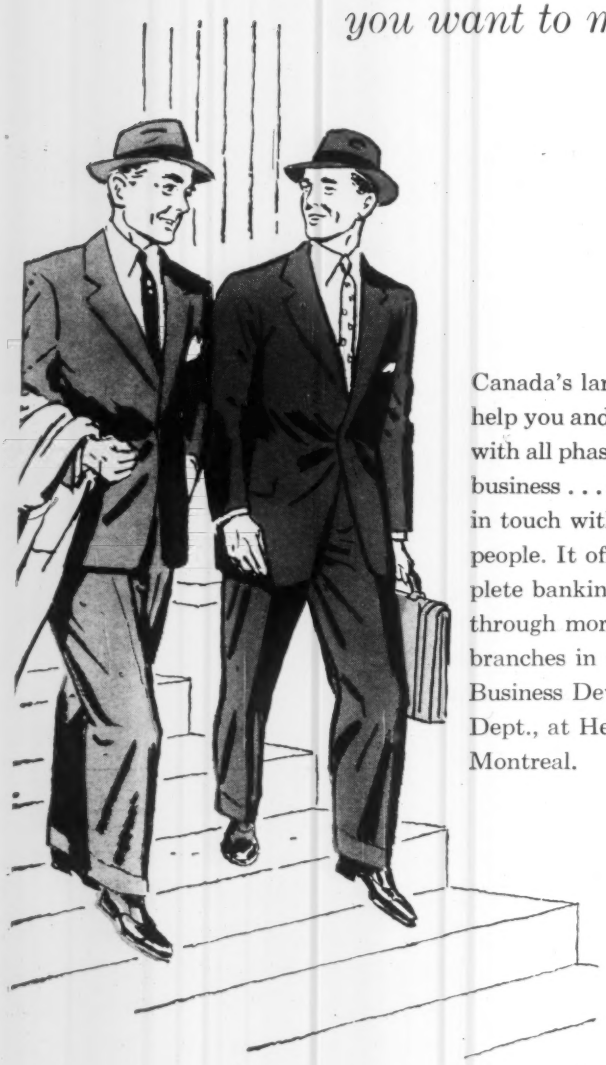

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Over 860 branches in Canada, the West Indies, Central and South America, New York, London and Paris.

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yet avoid the accusation that they have simply selected the most extreme provisions of all states. They can always point out that in some respects their model law is "more conservative" or "more reasonable" than some state provisions.

In some instances they have decided that none of the states has gone far enough; so they have gone further. They decided, for example, that the doctrine of "fault" should be brought back into the basic fabric of the law. They would provide that wherever evidence can be produced that an accident was the employer's "fault" or the result of his "negligence" in violating a safety rule, an added compensation payment be made. Under their recommendation an employee would be certain to get at least the regular compensation and he would be foolish not to try for an extra award by alleging "fault."

A Big Step Backward

Such a proposal could lead to much controversy and needless administrative expense; it could, in fact, bring back the very litigation and delay the compensation laws were intended to eliminate. Moreover, it implies that employers and workers are not safety-minded. As a matter of fact, the whole proposal appears to imply that the employer is somewhat of a social leper. But employers are not without decent humanitarian beliefs as the billions of dollars and millions of hours spent on company safety programs attest.

Another "fault" element is included in the recommendation that double indemnity payments be made in case of injury to a minor illegally employed. States have not believed that workmen's compensation should be converted into a penal statute. Other penalties for violations of child labor laws can be and are provided.

Further, Dr. Larson and his group in the Labor Department have included a provision setting forth how "state funds" or "monopolistic" state insurance funds could be set up to operate in competition with or to exclude private insurance companies —this under an Administration that has advocated that government stay out of competition with free enterprise. The "model" law sets out recommended provisions allowing appropriations to be made by legislatures out of general tax funds to make up for administrative expenses, losses,

and other costs, if the state funds do not work out at a balanced budget. Dr. Larson and his aides emphasize that this provision is optional for the states. For that matter, they say that every feature of their "model" law is optional, which, of course, means nothing.

They also recommend that all states provide that, if an employee is under 27 years of age when injured, expected increased future earnings may be taken into consideration in arriving at the average weekly wage. But they don't recommend that, if a worker is 64 or older, expected decreased future earnings be taken into consideration.

Another illustration is their approach to rehabilitation. Everyone favors rehabilitation, of course. It has become a subject for much emotionalism. Yet sound, sincere thinking is needed to establish practical solutions.

A Blank Check for Officials

Here are the recommendations of Dr. Larson and his associates:

1. An injured worker would get 66⅔ per cent of his gross wages for unlimited duration.

2. He would get complete medical and hospital expenses for unlimited duration.

3. He would get an additional specific award of money for any permanent partial disablement.

4. The state director alone would have the power to determine whether or not rehabilitation would be advisable and the extent and nature thereof.

5. During retraining the worker would receive, in addition to the above benefits, such compensation as the director would deem necessary for his board, lodging, travel, and other expenses.

6. During retraining the worker's family would receive such assistance for the maintenance of the family, with no limits, as the director would choose to award, in addition to the above benefits.

No state now has such a law, and it is difficult to believe that any legislature would consider passing a law giving that kind of power to any state official. How would any actuary compute a rate schedule in advance if a blank check were to be given to a state director in this manner? How would such a provision in a state law affect another important

NØELTING Faultless CASTER MATERIALS HANDLING FACTS

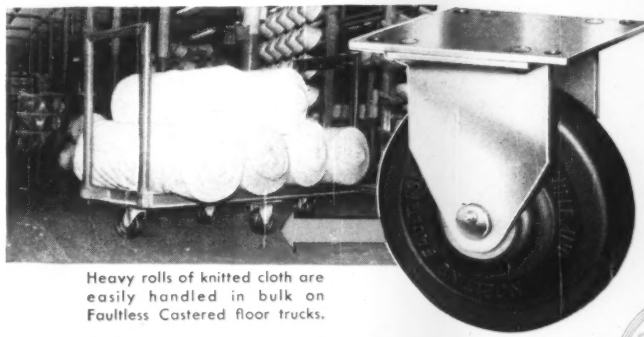
AMES TEXTILE CORP. USES 3-UNIT, CASTERED SYSTEM FOR HANDLING YARN AND KNITTED GOODS PRODUCTION

SERIES 900 DOUBLE BALL BEARING SWIVEL CASTER
This all-purpose caster outperforms the ordinary kind because of design features including complete choice of wheels to suit floor surfaces, loads and operating condition; 2 full rows of hardened ball bearings rolling in hardened, lubricated raceways; full drawn steel horn formed for surplus strength.

Frequent movement of materials during the production stages of knitted cloth requires the most flexible and maneuverable of materials handling systems. Ames Textile Corp., Lawrence Div. Mills at Lowell, Mass., has developed a 3-unit, integrated system of moving their high quality yarn and knitted goods during production, and Ames executives decided upon a fleet of specially built, Faultless castered trucks for these functions: (1) moving cones of yarn from the spinning frames to humidifying rooms, (2) transporting the moisture controlled cones of yarn to knitting rooms, and (3) handling heavy rolls of knitted cloth from knitting room to storage areas.

Several considerations of casters were made, followed by the *exclusive selection of Faultless 931-6 Double Ball Bearing Swivel Plate and 9731-6 Rigid Plate Casters.* 6" diameter Plaskite wheels were selected for their combined advantages of high load rating, ease of rolling, and floor-protection characteristics.

Like Ames, you should investigate the numerous advantages of Faultless castered trucks as the backbone of the handling system in *your own plant.*



Heavy rolls of knitted cloth are easily handled in bulk on Faultless Castered floor trucks.

SERIES 9700 RIGID PLATE CASTER
This rigid type caster has same overall heights and load capacities as the 900 Series Swivel type. The heavy steel top plate and sides are formed and riveted into a single unit. Full choice of wheels.

FAULTLESS SOLVES THE TOUGH JOBS

FAULTLESS CASTER CORPORATION
EVANSVILLE 7, IND.
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In an AAA-certified endurance run, 6 new Task-Force trucks roared up the 1,520-mile Alcan Highway (normally a 72-hour run) in less than 45 hours! In dramatic fashion, new Chevy trucks conquered one of the world's most challenging roads and proved their greatness!

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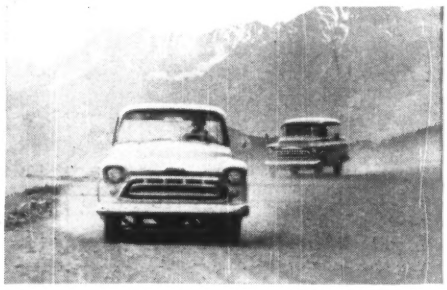

TASK·FORCE 57 TRUCKS!

modern features

fleet-action power in Chevy's outstanding new engine line-up—with the 195-h.p. Loadmaster V8 standard in all 9000 and 10000 series trucks; and the sensational new 283-cu.-in. Taskmaster V8 (160 h.p.) standard in 5000, 7000 and 8000 series models. All told: *five* high-efficiency V8's and *three* economy-leader 6's in the truck line alone!

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A. Cameo Carrier covered entire distance without stopping engine; averaged 18.17 miles per gallon!

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phase of workmen's compensation—the employing of the already physically handicapped—in view of the apprehension that employers would then have about second injury claims? They could only conjecture what costs would be charged against them in retraining any employee sustaining a second injury.

Throughout the so-called Model Act the director is given many similar broad discretions.

Change in Historical Concept

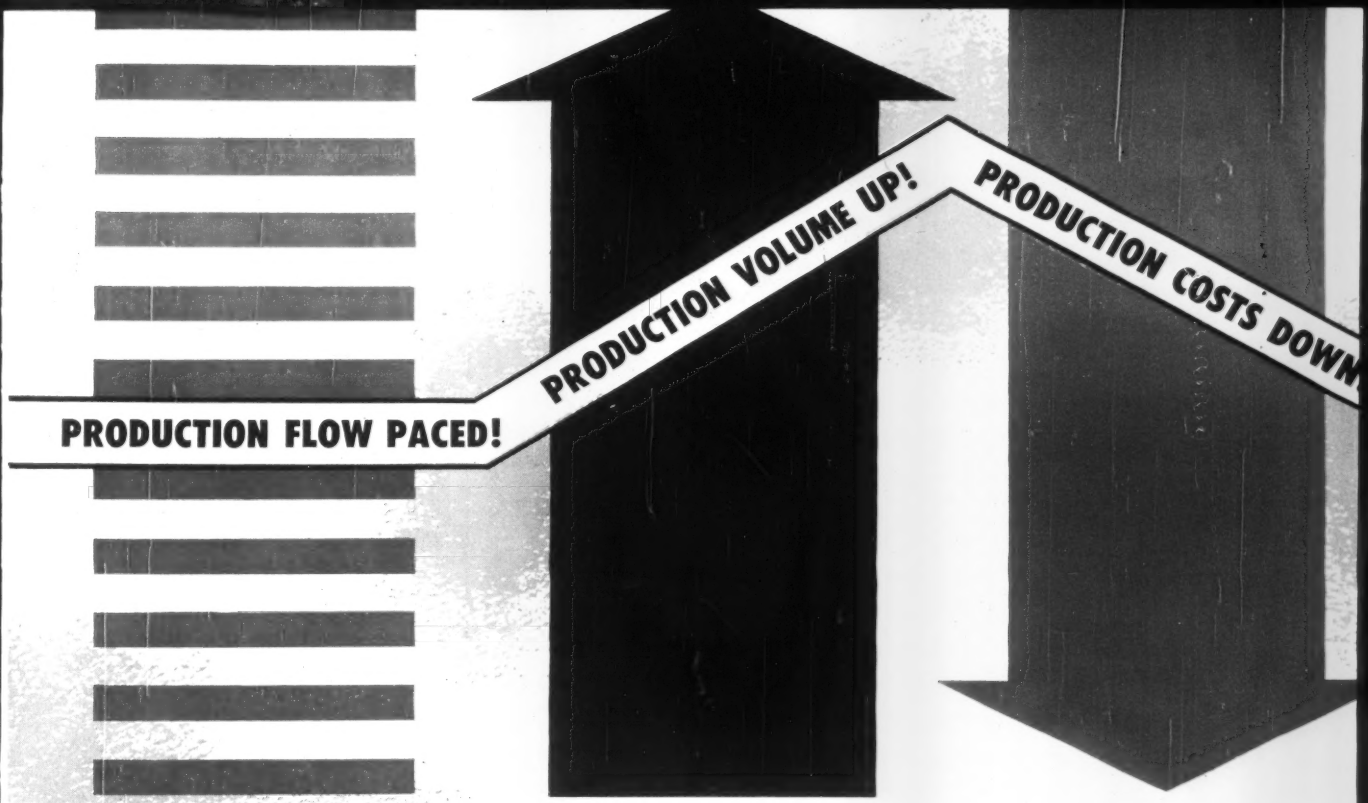
Here is another illustration. Dr. Larson would redefine "injury" in a way that would change the original and historical concept of workmen's compensation. In discussing this definition, Dr. Larson states, "We have permitted ourselves in only one place the luxury of being revolutionary reformers." The pertinent part of Dr. Larson's definition reads: "Injury means mental or physical harm, including disease or infection arising out of employment. . . ."

For comparison, the pertinent parts of most states' definitions of injury and occupational disease read something like this: "If any workman . . . shall sustain a personal injury by accident arising out of and in the course of employment caused by violent and external means. . . . Any disease *which is peculiar* to the industrial process, trade, or occupation in each instance and which arises out of and in the scope of employment, and to which an employee is not ordinarily subjected or exposed other than during a period of regular employment therein."

It is clear that the basic intent is to limit compensation for injuries and occupational diseases to types that are peculiar to the hazards of the job.

Dr. Larson's definition, which in-

"I don't care who you are. NOBODY punches Mr. Klieger in the nose during his lunch hour."



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The complete Webb facilities assure you . . . through one source for all materials handling needs . . . controlled materials movement, savings in time, and reduction in handling costs.

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1. **Promote safer driving habits**
2. **Cut down tire wear and fuel consumption**
3. **Reduce over-all maintenance costs**

Making the investment in a Tachograph for every vehicle you operate is sound business. Hundreds of safety-minded, cost-conscious fleet operators everywhere have found this to be so.

As an accurate recording speedometer, the Tachograph automatically and permanently records vital trip information on an easy-to-read wax-coated chart. This chart shows when truck started, how fast it traveled, when it stopped, idling time and distance between stops. Illuminated dials on the face of the tamper-proof aluminum case show the time of day, miles per hour or revolutions per minute, depending upon type of instrument installed, and total mileage. A red light also warns driver whenever your company's predetermined speed limit is exceeded.

Use the coupon below to send for your free copy of Wagner Bulletin SU-3—it tells the *whole* Tachograph story and there is no obligation, of course.

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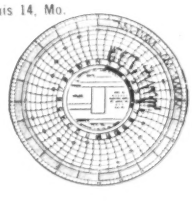

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cludes mental illnesses, has but one qualification, "arising out of employment." Pages could be filled with examples of benefit payments under such a definition that have no relationship to industrial accidents.

Some idea of how taking the words "in the course employment" out of a state law would operate may be obtained by citing cases from any state where compensation has been denied because an injury was considered as not arising "out of the course of employment." While almost any state could be used for illustration, here are five examples from Missouri:

1. Timekeeper taking, instead of mailing, reports to employer while on trip where primary purpose was to visit friends. (McMain v. Const. Co.)

2. Employee, reporting to job, finding same a dirty one, drove home in own car for old clothes and was injured en route. (Smith v. Metal Works)

3. Employee driving company truck five miles off route to pick up wife. (Kinkead v. Corp.)

4. Salesman, in auto, deviating from route, taking neighbor lady for ride, injured before returning to route. (Weaver v. Norwich)

5. Salesman, in auto, mailing weekly report to company at a distant mail box, then visiting before returning home. (Dugan v. Sash Co.)

Where Could Line Be Drawn?

The Association of Casualty & Surety Companies said in its comments to Secretary Larson:

"The specific inclusion of mental harm would probably make compensable nervous and mental breakdowns allegedly due to overwork and other strain in the employment. It would probably be easy in many of such cases to prove that the employment in some way contributed to the development of the mental or nervous condition. It should be noted that the definition is not limited to mental harm due to traumatic injury or occupational disease. Mental harm in itself would constitute the injury. A high percentage of inmates of our mental institutions might very well under this language be entitled to an award.

"Making all diseases or infections arising out of the employment compensable would likewise open the door wide to the inclusion of a variety of ordinary diseases of life. En-

gaging in active work instead of resting at home could conceivably serve as a causal link to the employment. Contagious or infectious diseases which might allegedly be contracted from contact with other employees would likewise be compensable.

"The proposed definition omits the phrase *in the course of employment.* This language is presently found in the laws of nearly all of the states. The requirement that an injury occur in the course of employment is a reasonable one. If the employer is to be made liable for an injury, it should be one which occurs during working time. Conceivably, if this requirement were omitted, compensation could be claimed for an injury occurring after work on the ground that due to strenuous effort during the working day the employee was unduly tired and was not as alert or agile as he would otherwise have been.

Difficult Questions of Proof

"Questionable claims for heart attacks occurring after work would be encouraged. Since the injury would no longer be required to occur *in the course of employment*, additional cases would arise where there would be difficult questions of proof as to whether the injury *arose out of* the employment. Balancing the equities, it would not seem that omission of this well-established language is justified. To take care of a rare case, the flood gates would be opened for conditions which should not be compensable. The very substantial added cost of providing compensation for all such cases would reduce the probability of adequate compensation being paid in those instances where causal relationship between severe injuries and the employment is unquestioned.

"This definition, moreover, omits the requirement that the injury be by accident. Again such omission would tend to bring within the coverage of the Act many questionable cases."

The most important question of all is whether it is necessary, desirable, or proper for the Federal Government to invade the field of workmen's compensation.

Each state has an insurance commissioner. He and his staff are well informed in this field. Usually they are Democrats in Democratic states and Republicans in Republican

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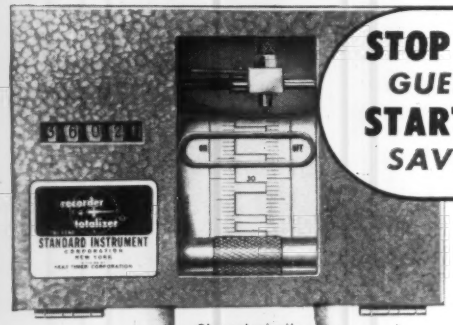

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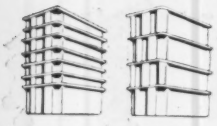

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states. At their annual convention held late in May 1956 the commissioners passed the following resolution:

"WHEREAS the development and administration of state workmen's compensation laws are, specifically, matters within the purview of the individual states, and

"WHEREAS amendments to such state laws have been enacted by the legislatures of the various states with the cooperation of labor, management, governmental agencies, and other interests whenever necessary to meet changing local conditions,

"BE IT RESOLVED that the further development, amendment, and administration of the workmen's compensation laws of the individual states remain entirely and exclusively within the jurisdiction of the individual states, and

"BE IT RESOLVED FURTHER that the advocacy, sponsorship, or suggestion by the Federal Government of proposed changes in either legislation or supervision of workmen's compensation in the individual states is neither necessary nor desirable."

Dozens of similar resolutions have poured into the Department of Labor from all sections of the United States. In the closing days of the last session Congress denied the Department's request for $40,000 to continue its activities in this field. It is to be hoped that the Department will be guided by such resolutions and the action of Congress.

But it seems that the Department is disregarding them. Dr. Larson and his associates want the state legislatures to pass the kind of laws the Department of Labor wants—not the kind the states deem best.

"True, the yearly increase is only $100, but notice this—the ceiling is a cool $40,000!"

STATE TAXES . . *continued from page 42*

only $47 in New Jersey. Yet common sense and personal observation tell one that the residents of New Jersey have not been neglected so far as governmental services are concerned—services such as schools, roads, public safety, and welfare. It happens that in New Jersey local governments rather than the state are responsible for a relatively larger share of these public outlays; so the state expenditures (and taxes) are smaller on a per capita basis. Thus the total of state *and* local taxes expressed in per capita figures may be much the same in two states, even though the amount of taxes collected at the state level is much greater in one than in the other.

These facts must be kept in mind in examining the following tabulation of the five states with the highest per capita tax collections and the five with the lowest. The column giving the latest Federal Government calculations of per capita personal income offers a good clue to capacity to pay taxes, even though corporate incomes are omitted. The tax column gives an indication of the differing roles of state and local governments in offering services to their citizens. The per capita personal incomes for 1955 (the latest figures) in New Jersey and Delaware were fairly similar. Yet, as has been pointed out, the per capita tax collections by the state government of Delaware were almost triple those in New Jersey because local governments raise a greater proportion of money in the latter state.

	—Per Capita—	
Five highest states:	Taxes	Income
Washington	$131	$1,987
Nevada	130	2,434
Delaware	127	2,513
California	118	2,271
New Mexico	117	1,430
Five lowest states:		
Missouri	62	1,800
Kentucky	57	1,238
New Hampshire	55	1,732
Nebraska	54	1,540
New Jersey	47	2,311

In 1955 Louisiana was in the top five rather than Nevada. The lowest three held the same positions; then came Alabama and Kentucky.

There are various ways to present tax collection figures. Some of them make a rather dark picture. If, for

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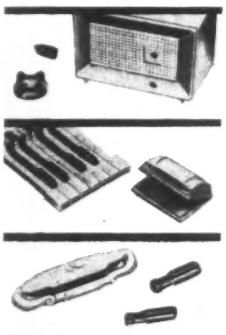

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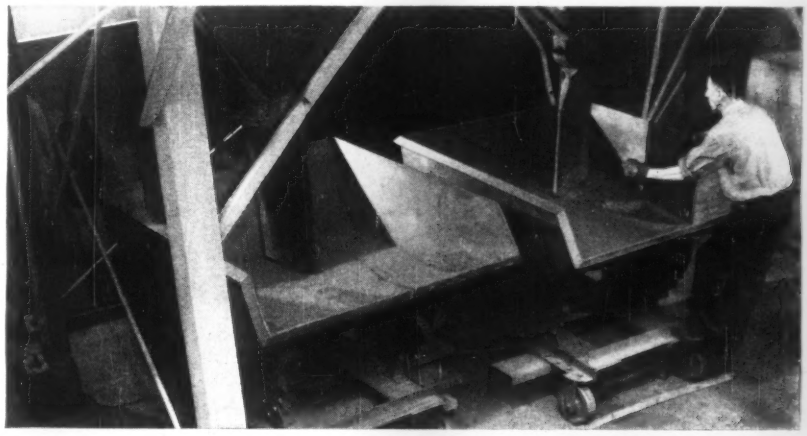

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Arizona		√		√						√	√			√	√	Arizona
Arkansas	√	√		√		√		√		√	√			√	√	Arkansas
California		√	√	√	√			√						√	√	California
Colorado	√	√		√				√	√					√	√	Colorado
Connecticut			√							√	√			√	√	Connecticut
Delaware	√			√		√					√			√		Delaware
District of Columbia			√	√							√			√	√	District of Columbia
Florida	√				√	√		√		√	√	√	√	√	√	Florida
Georgia	√	√		√	√	√		√		√	√			√	√	Georgia
Idaho	√	√		√				√			√					Idaho
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Iowa		√		√	√	√			√	√	√			√	√	Iowa
Kansas	√	√		√	√	√	√	√		√	√		√	√	√	Kansas
Kentucky	√	√		√	√	√		√		√	√					Kentucky
Louisiana	√	√		√		√		√	√	√	√			√	√	Louisiana
Maine	√					√					√			√	√	Maine
Maryland	√	√		√		√			√	√			√	√	√	Maryland
Massachusetts	√		√	√							√		√			Massachusetts
Michigan	√				√	√		√	√		√			√[2]	√	Michigan
Minnesota		√	√	√				√			√		√			Minnesota
Mississippi	√	√		√		√		√	√	√	√		√	√	√	Mississippi
Missouri	√	√		√	√					√	√			√		Missouri
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North Carolina	√	√		√	√	√			√	√				√	√	North Carolina
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Pennsylvania	√	√	√		√	√	√				√	√	√	√	√	Pennsylvania
Rhode Island	√	√			√					√	√			√	√	Rhode Island
South Carolina	√	√		√					√	√	√	√	√	√	√	South Carolina
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Tennessee	√		√	√		√		√	√	√	√		√	√	√	Tennessee
Texas	√					√		√	√	√	√	√				Texas
Utah			√	√				√		√	√			√	√	Utah
Vermont			√	√							√					Vermont
Virginia	√	√		√	√	√							√	√		Virginia
Washington	√							√		√	√		√	√	√	Washington
West Virginia	√				√	√		√	√	√	√			√	√	West Virginia
Wisconsin		√		√							√					Wisconsin
Wyoming	√					√		√		√	√			√	√	Wyoming

* All states levy property, license, gasoline, motor vehicle, alcoholic beverage, utility and insurance company taxes, as well as incorporation and qualification fees for corporations. This chart tabulates special taxes, not common to all states.

[1] The gross income tax in Indiana as applied to employees is analogous to a net income tax, although as to most businesses it is similar to a sales tax.

[2] Michigan also levies a tax on gross receipts of businesses based on added value.

[3] On income from intangibles only.

[4] National banks only. State banks subject to tax on deposits.

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instance, the state tax bill for fiscal 1956 were put on a time-period basis it would work out to about $25,000 per minute.

But there are also a lot of people to pay the taxes. On a per capita basis state tax revenues in 1956 came to $82, a useful statistical figure for inter-year comparisons. Five years ago it was $59. Probably a more realistic adjustment, which eliminates persons not actually paying taxes (that is, children and many of the aged), is to divide the total of state taxes by the number of families and unattached individuals, roughly 53 million. The result is $252 per living unit for state taxes, while federal-state-local taxes come to about $1,700 per (statistical) family.

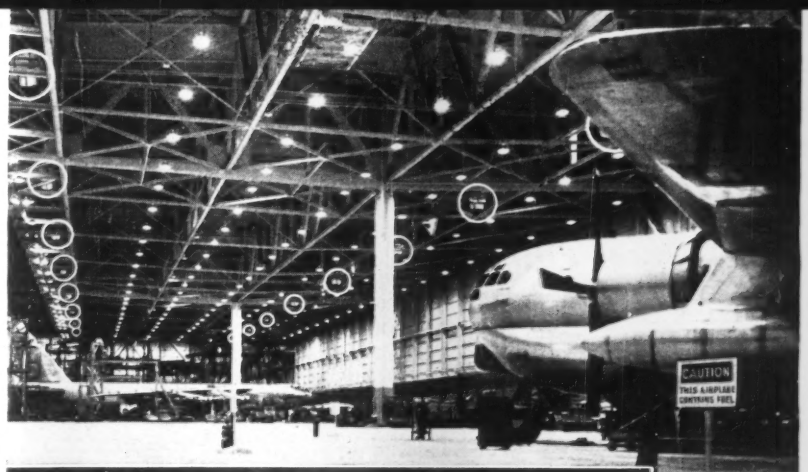
Same Services Cost More

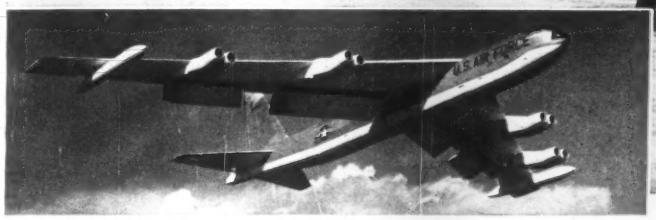
Price changes must also figure in any appraisal of tax trends and efficiency of governmental operations. Unquestionably dollar tax collections are larger today than fifteen years ago—and this is true for every level of government. Because there is a direct, positive correlation between taxes and expenditures, one normally would infer that state governments are spending more today than in 1941. Certainly this is true for most of us as individuals and families. Yet spending more to live does not necessarily mean a higher standard of living because prices have jumped so much. Thus larger tax bills do not necessarily mean that we are having *more* state government. It may be only that the same quantity and quality of government costs more.

The influence of rising prices can be squeezed out of the state financial data by putting dollar figures over a period of years in terms of a constant dollar. If population changes are also allowed for through per capita adjustment, state tax collections over a 15-year period come out to the following figures:

	1941	1956	% Increase
Total (*in millions*)	$3,606	$13,335	269
Per capita	27	82	204
Per capita *in constant (1947–49)* dollars	43	71	65

Such adjustments, perfectly legitimate and in no sense finagling, lessen a good bit the forbidding increase





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in the annual dollar figures of state tax collections during the past fifteen years.

Moreover, there is one more consideration, and a critical one. "Tax burden" is a common term, but it also is a relative term, relative to capacity to pay taxes. You and I almost certainly are paying more tax dollars currently than we were a few years ago. But if our incomes have increased proportionately, the actual burden is no greater.

Probably the best way to present the relation of taxes to ability to pay is to use the net national product, one of the components of the gross national product of the country. The net national product (NNP) is the total value in current dollars of all goods and services produced in this country within a stated time period minus capital consumption (amounts set aside to cover depreciation).

State tax collections in 1956 were 3.6 per cent of the NNP, and 3.1 per cent in 1941. Considered on the same basis, tax collections by local governments have dropped off a bit since 1941, and currently are estimated to be near the state ratio. It has been the federal levies, of course, that have jumped as a result of hot and cold wars since 1941. And although the NNP is at a new high, the rise in the federal taxes has brought the total tax bill (federal, state, local) to about 24 per cent of the NNP compared with 13 per cent in 1941.

Our total taxes, thus, have increased at a faster rate than the dollar values of the goods and services produced in this country during the past decade and a half. Whether or not these taxes are "too high" is a moot point.

Are States in Trouble?

For each of us, whatever our occupation, the trends in state finances are of major importance. To be sure the state tax bill is considerably less than that of the Federal Government, but the levels of government are so intertwined (and becoming more so) that the health of one level decidedly affects the others.

The states through their grants-in-aid are more and more helping out their hard-pressed local governments. Furthermore, the tradition of state sovereignty depends to an appreciable extent on the financial self-sufficiency of the states. Yet in 1955 the 48 states as a group received $2.8 billion from Washington. It is apparent, therefore, that the fiscal health of the states themselves is vital not only to state governmental operations, but also to their local units and to the tradition of state independence from federal control.

Well, how are the states doing financially? In 1955, the latest year for complete state revenue and expenditure figures, four states were not able to cover even their own current operations with their own taxes. Fifteen more states found tax revenues inadequate for current operations plus capital outlays. This situation is not desirable.

But there is even more evidence of potentially serious troubles in state finances. Every state gives money to at least some of its local units of government, in the main for education and highways. Naturally enough, the local governments have come to depend on the grants; thus they are well established as a part of a state's annual expenditures. In 1955, and this has been true for some time, no state raised enough money from its own taxes to cover its general expenditures including grants-in-aid.

As local governments have become partly dependent upon their states, so the states have come to look to the Federal Government for aid. In 1955 the amount received in this form came to about $2.8 billion.

Even with this federal aid, 30 states had general expenditures greater than general revenue (taxes, federal aid, charges, and miscellaneous) in fiscal 1955, according to Census reports. The result, of course, is mounting state debt.

Perhaps it might be asked: What difference does it make where the tax money comes from? After all, the country's total tax bill is the same.

To some extent this is true. When a city receives money from its state for local education, the additional dollars come from state-imposed rather than local taxation. The same is true of welfare grants by the Federal Government to states. But this points up one of the major objections many persons have to this system: With grants-in-aid comes some degree of regulation by the grantor. This is a perfectly proper requirement, but the result is a lessening of the political and economic independence of the receiving unit of government, usually one on a lower level,

and more concentration of control on the higher level.

There is another aspect of this aid problem. It may be assumed that if local units of government receive aid from their state, the local units do not need to raise as much money through their own taxes. That is, people pay the additional taxes to the state rather than to the county or city. But it does not always work out this way. The tendency is for the local government to tax to about its legal and economic capacity and then seek additional revenues in the form of aid from its state. Rather much the same thing is the state-federal aid relations. Thus it is not the city *or* the state, but rather the city to its tax limits (legal and economic) and *then* the state.

The Outlook

Certainly the weight of evidence points to higher tax bills. Not just more tax dollars coming from continued and even greater prosperity, but actually higher tax rates and new taxes or their equivalent. For those whose incomes keep pace with taxes the "burden" will be no greater. But for those on fixed or sluggishly advancing incomes a larger proportion of gross will go in taxes. Whichever the situation, we the people will not *necessarily be less well off.* Indeed, segments (and these may be rather large) may be better off if they are the direct recipients of governmental spending.

There are several reasons why the prospect is that tax levies on the state and other levels of government are likely to mount. I shall mention but two, which, although interdependent, are distinct enough to enumerate.

The first is the deep-seated urge toward self-preservation and advancement, individually and through membership in special interest or pressure groups. Our society has become so interdependent that self-preservation and advancement no longer rest on the strength of the individual or even an association but usually require, or certainly are facilitated by, aid from "the government." The result of such demands is more governmental expenditures and a mounting tax bill or debt.

The second reason lies in the changing composition of our population. For the time being, at least, the proportions of the young and the old to total population are increasing. These two groups are non-productive; that is, they have to be taken care of for the most part by persons in the 20–65 age bracket. Furthermore, this care will not be on a voluntary person-to-person or family basis as used to be the case. More and more education is being provided at public expense, and we have accepted the proposition that the aged shall have some direct governmental support.

Can anything be done to minimize or slow up these mounting tax bills? Yes, at least two courses of action are possible. One is to insist that our governments—federal, state, local—be run efficiently. This insistence is futile unless backed up by the active participation of laymen in politics. Second, we must realize that "the government" is not an impersonal thing with unlimited funds, but basically you and I. We as individuals or as members of pressure groups (by whatever name they may be called) are likely to say, "Let the government do it." If we substitute the words, "Let me do it," there will be a lot less running to "the government" for help. Both courses of action require time, work, and courage. It is up to the individual to decide if the gains are worth the costs.

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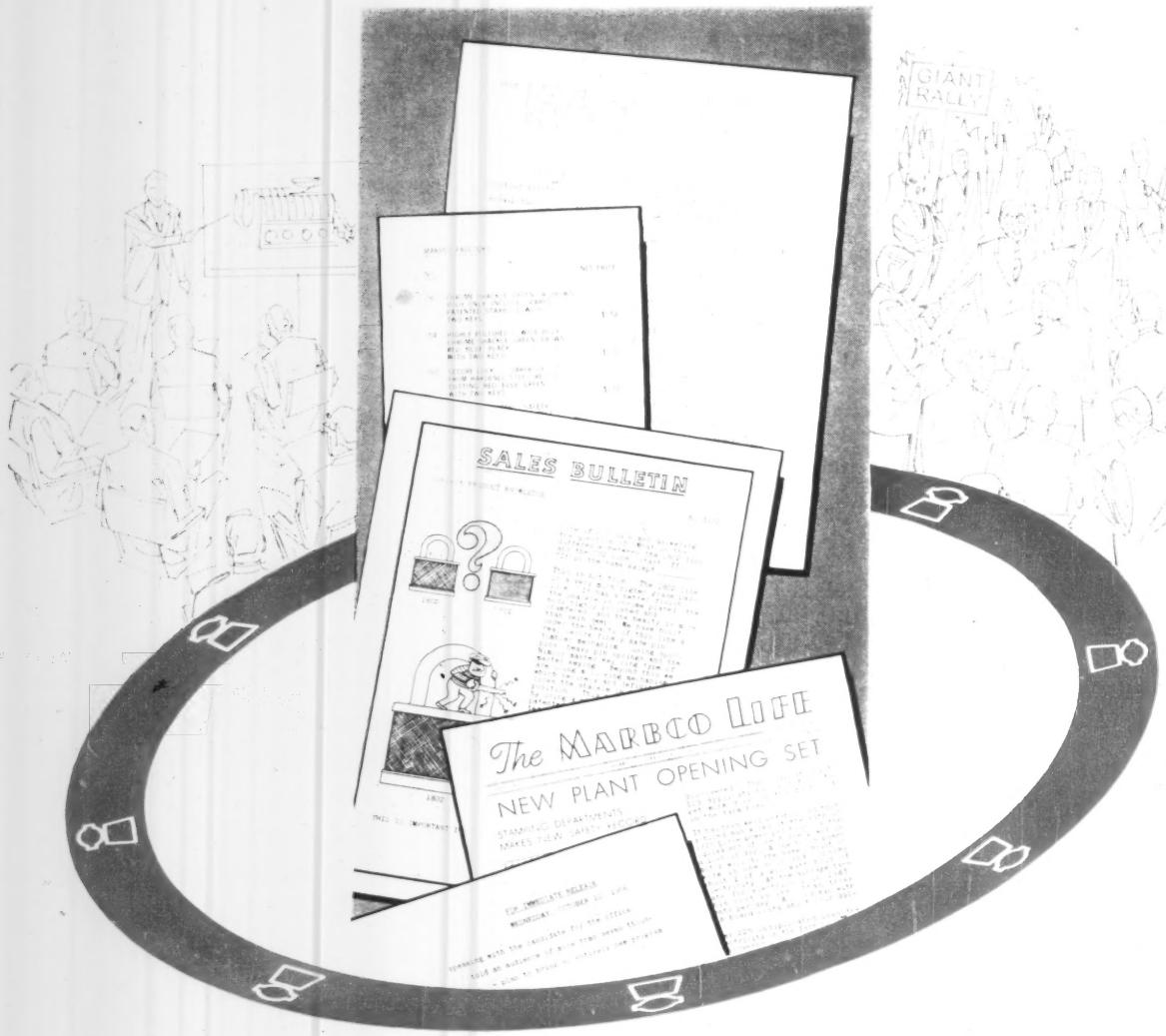

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THE VIKING BOOK OF FOLK BALLADS *edited by Albert B. Friedman. Viking Press, Inc., 18 East 48th Street, New York 17, N. Y., 473 pages, $4.95.*

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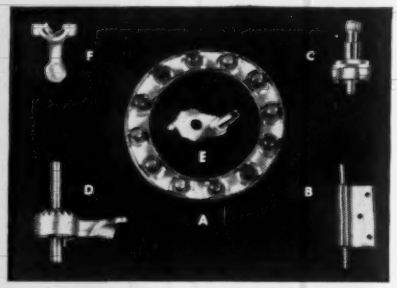

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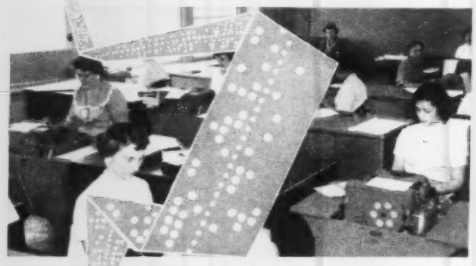

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THE AMERICAN BUSINESS CREED *by Francis X. Sutton, Seymour E. Harris, Carl Kaysen, and James Tobin. Harvard University Press, 44 Francis Avenue, Cambridge, Mass., 414 pages, $6.75.*

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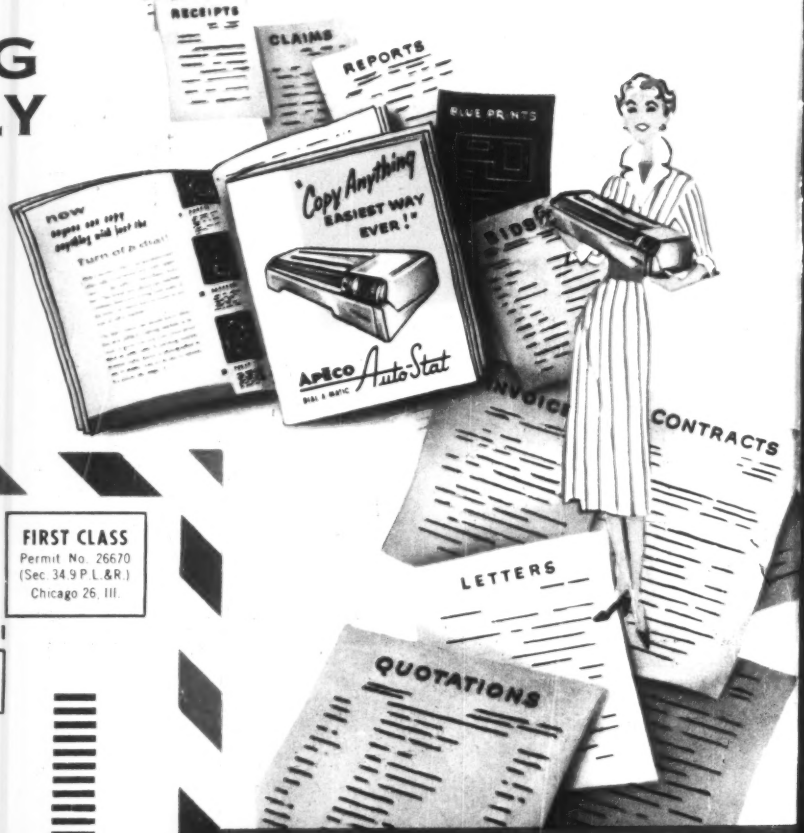
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WHAT THE TARIFF MEANS TO AMERICAN INDUSTRIES *by Percy W. Bidwell. Harper and Brothers, 49 East 33rd Street, New York 16, N. Y., 304 pages, $5.*

Case studies of eight American industries explore the paradoxical tariff issue from a local and specific rather than a broad and national point of view. Such an analysis has the merits of pointing up the immense complexities in the problem. Unfortunately, although understandably, it offers little in the way of a clear solution except an appeal to the intelligence and integrity of our legislators.

RECRUITING AND SELECTING OFFICE EMPLOYEES *by Milton M. Mandell. American Management Association, 1515 Broadway, New York 36, N. Y., 176 pages, $3.50 (AMA members), $4.75 (nonmembers.)*

Results and analysis of an AMA survey reveal major problem areas in selection of office personnel. A majority of the text concentrates on a specific study of selection methods now in use. It is revealing, though perhaps discouraging, to see how frequently intelligence emerges as a far less desirable quality than "the ability to withstand monotony."

A BUSINESS OF YOUR OWN *by Thomas P. Murphy. McGraw-Hill Book Company, Inc., 330 West 42nd Street, New York 36, N. Y., 285 pages, $3.95.*

HOW TO RUN YOUR OWN BUSINESS AND MAKE IT PAY *by W. R. Minrath. D. Van Nostrand Company, Inc., 120 Alexander Street, Princeton, N. J., 323 pages, $5.95.*

Mr. Murphy explores the risks and opportunities of opening a new business, Mr. Minrath the problems of running one successfully.

HOW TO GET INDUSTRIAL AND BUSINESS PUBLICITY *by C. E. St. Thomas. Chilton Company, Philadelphia, Pa., 166 pages, $6.*

A helpful guidebook for establishing and evaluating publicity policy, especially in smaller companies.

SMALL BUSINESS IS BIG BUSINESS *by Harry J. Ostlund and Stanley C. Hollander. University of Minnesota Press, Minneapolis 14, Minnesota, 34 pages, $1.*

The special problems of starting and operating a small business are explored in this paperbound booklet, which includes many helpful facts and suggestions.

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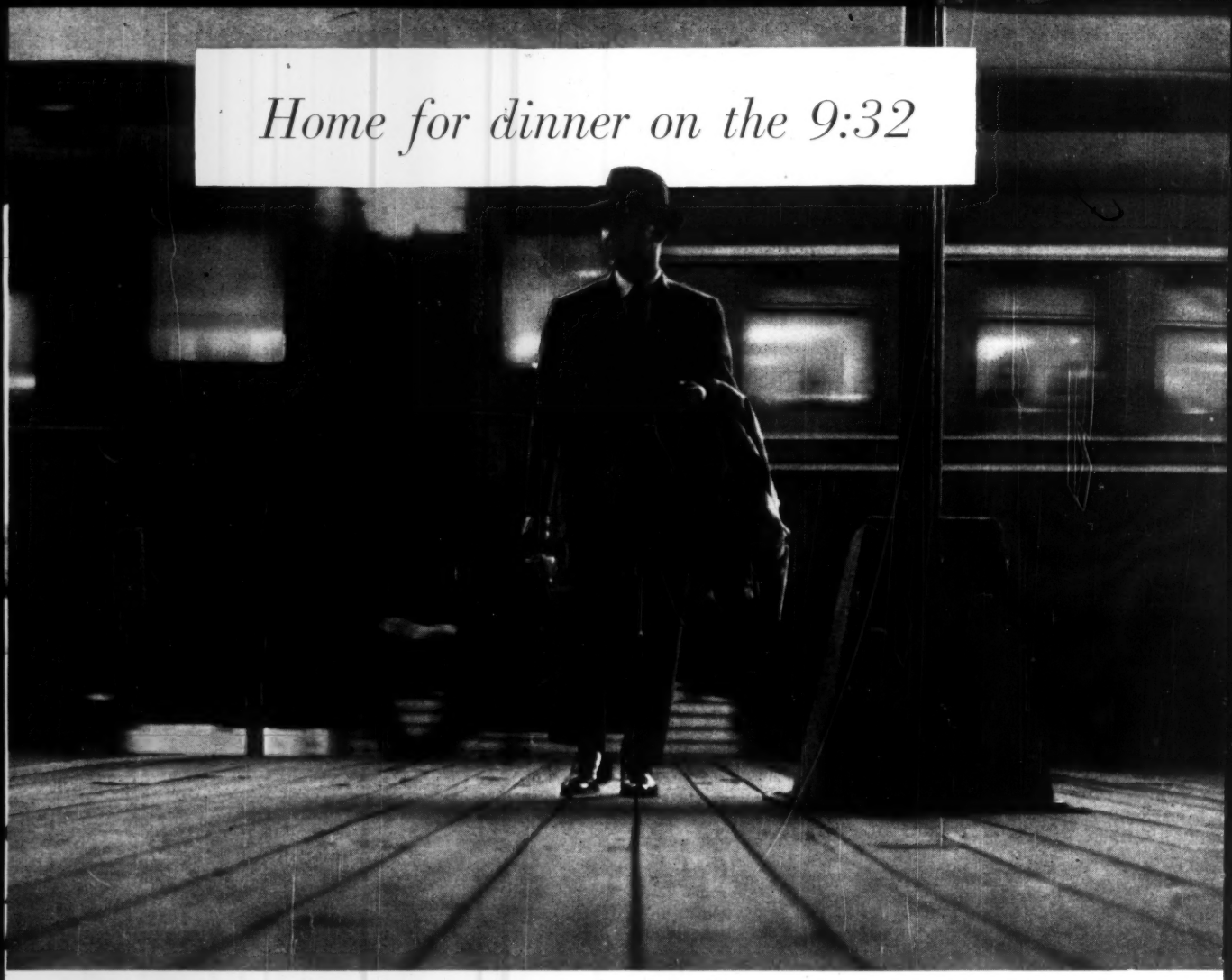

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NEW ANGLES ON PRODUCTION, PLASTICS, AND METALWORKING

Polyethylene: four plastics from one

When it comes to growth, Jack's fabulous beanstalk has nothing on polyethylene. Sales of this lightweight, flexible, chemical-resistant plastic have nearly tripled in the past three years; productive capacity is up more than 350 per cent; and, where there were two basic producers, there will soon be more than a dozen.

But that's only part of the story. Important progress is being made on the chemical side. Two years ago, there was only one basic type of polyethylene available commercially, a soft, flexible material produced by polymerizing ethylene gas under high pressure. Now there are at least two new production methods and a new processing technique, and a new family of resins is on the way.

First new development to attract attention was radiation processing. It was discovered that, by exposing polyethylene strip—or molded articles—to an electron beam, it was possible to increase its strength by a factor of two or more, and boost its top operating temperature from less than 200° F to more than 250°—bringing it well above the critical boiling point of water.

These are impressive gains. But irradiation does mean an extra processing step. Could the resin itself be improved? The answer is, "yes." At least two ways have now been found.

One is a "low-pressure" process, using a catalyst to form polymers which, in contrast to the branched-chain molecules of "regular" polyethylene, are of a linear type. These new *low-pressure* or *linear* polyethylenes (also known as *high-density* or *high-temperature* polyethylene) are stronger and more rigid than the conventional type, denser (though still light enough to float), and more resistant to stress-cracking and heat.

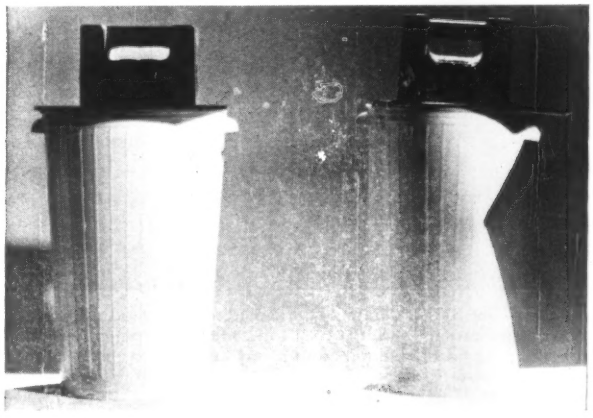
There are several variations of the low-pressure process, and at least a dozen companies have been licensed to use one or more of them. Among the companies producing, or planning to produce, low-pressure polyethylene are: Bakelite, Celanese, Dow, Du Pont, Grace, Hercules, Kellogg, Koppers, Monsanto, Phillips Petroleum, Spencer Chemical, and Texas Eastman.

Meanwhile, the high-pressure process itself has been under study; and, within the past few months, Bakelite, Du Pont, and Spencer Chemical have announced stiffer, more heat-resistant materials that are closer in many respects to the linear type and competitively priced. (These, too, are higher in density than "regular" polyethylene, are known as "high-density" types. But they should not be confused with the linear materials.)

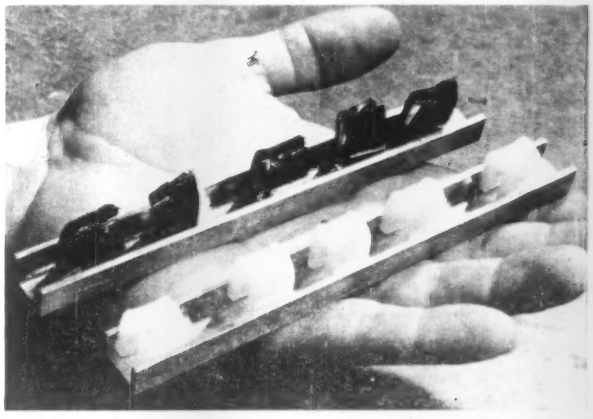
The new family of resins is based on propylene rather than ethylene, but the two basic materials are closely related. (Propylene has three carbon atoms and six hydrogen as compared with ethylene's two and four.) Preliminary work indicates that polypropylene plastics will offer many of the advantages of polyethylene—perhaps even at lower cost.

Will these new types replace the older high-pressure polyethylene? In some cases, they probably will. But their real significance is that they promise to extend the advantages of polyethylene to many products previously out of its range. The higher-density materials may be used for containers, gears and knobs, laboratory ware, and other products which need greater rigidity or more resistance to heat and chemicals than the conventional type offers.

It should be remembered, though,



Increased rigidity is one of many improvements offered in new polyethylene resins. Here, Bakelite uses weight test to show that new type stands erect while conventional material buckles.



Linear polyethylenes resist bending and chemical attack (immersion in strong detergent) while conventional type (black) goes to pieces, as this test made in Koppers laboratory demonstrates.

that these materials are new. Commercial production of linear and high-density materials is just getting under way. Polypropylenes are still in the laboratory. It would not be wise to expect too much of them too soon. But they're worth a close look.

Hot items from defense labs

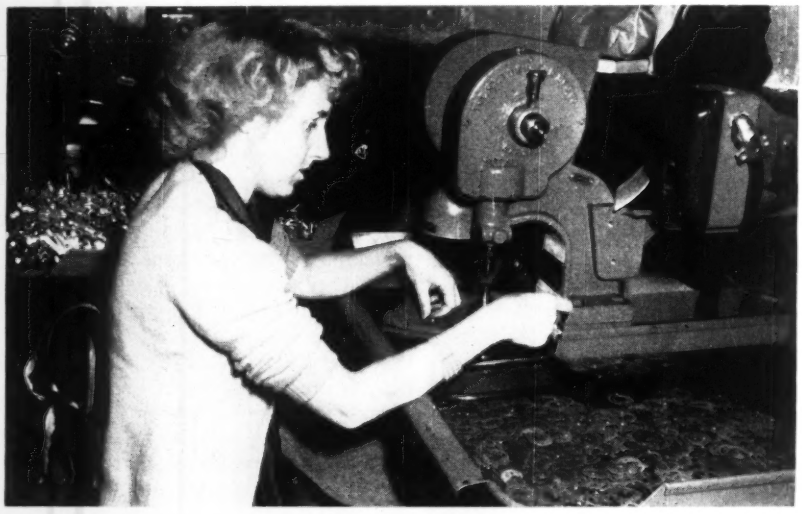
Radio tubes that don't begin to operate until you play a blow torch on them. . . . motors that bask happily in 900° F ovens. . . .

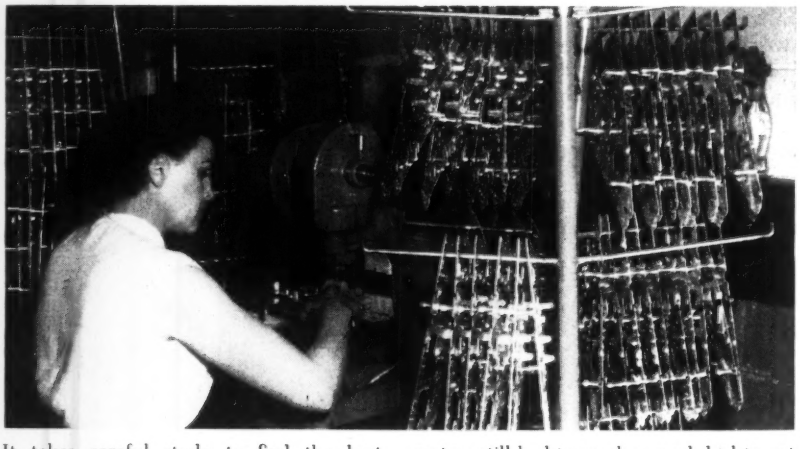
These are only two of the new products that are being created to meet the requirements of jet aircraft.

The new materials which make these products possible promise to prove useful in many fields. For example, engineers at General Electric's Research Laboratories note that materials which resist temperatures in the 900° F range also tend to be radiation-resistant and corrosion-resistant. That makes them valuable for atomic energy work. And some of them should be useful in cutting tools (see September, page 88) as well.

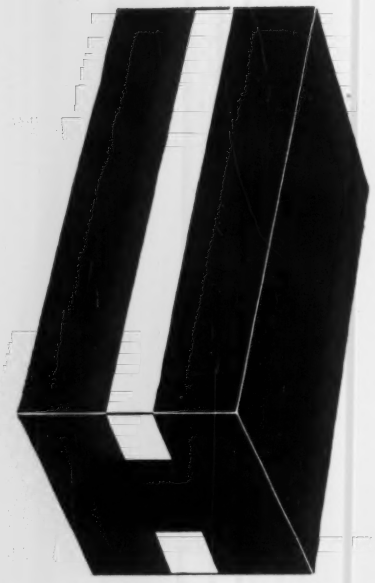
Among the new materials is lead metaniobate, which GE describes as "a piezoelectric material (semi-con-

The better way





It takes careful study to find the best method for each job. Even when operations are basically similar, vastly different work arrangements may be needed, as these examples from Friden Calculating Machine Company demonstrate. Parts for the riveting jobs pictured here used to be supplied in tote boxes, placed next to each bench. Boxes were in a "convenient" spot—but operators still had to reach a good deal to get the parts. Now, small stampings (left) are dumped in a tray attached to the machine; while the larger slotted side frames (right) are handled on portable, easy-to-use "Christmas tree" racks. Friden engineers report that productivity on both jobs is up nearly 10 per cent, quality of work has improved, and worker fatigue is reduced.



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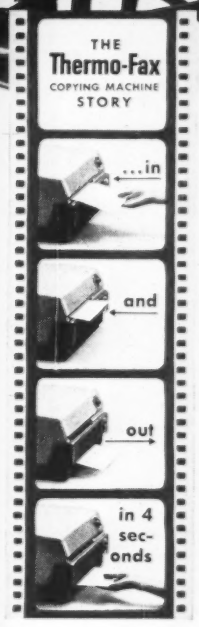

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ductor) that . . . retains most of its properties up to 900° F." Possible applications include missile accelerometers and devices to detect and control excessive vibration.

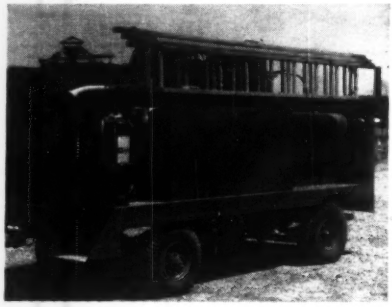
G-E engineers have teamed titanium metal with special ceramics to make the high-temperature radio tubes. The metal is valuable not only for its high melting point but also because it acts as a getter (a material that picks up undesirable gases) and so helps maintain and even improve the tube vacuum. The ceramics are low-porosity materials, matched to titanium in their coefficient of expansion so that the danger of rupture on heating and cooling is held to a minimum.

The most interesting feature of these radio tubes is the fact that they have no heater element. Taking advantage of the fact that today's electronic equipment already generates a good deal of heat, G-E engineers have designed heaterless diodes and triodes that utilize this excess heat rather than a heater element to promote electron emission. That way, the tubes need less power and are likely to be more reliable.

In brief

Silk and leather, foods and beverages are among the products that may benefit from a protein-digesting enzyme now being recovered from pineapple plant stumps by Dole Hawaiian Pineapple Company, Ltd. Known as *bromelain*, the enzyme is expected to be competitive in price

It gets around



Baby fire truck, built especially for in-plant use, is only 4 feet wide and 11½ feet long, and a little over 5½ feet high, will "go anywhere a fork truck can." It can carry dry chemical or carbon dioxide extinguishers, water, ladders, hose, and even a first-aid kit. Ansul Chemical makes it; also has two-wheeled and three-wheeled models.

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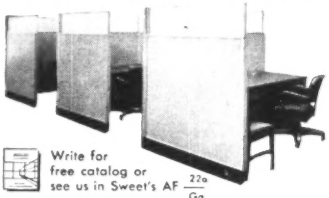

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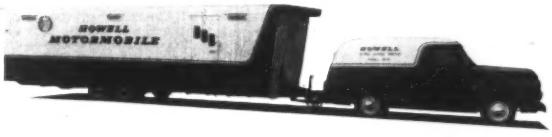

Visitors to the Howell Motormobile not only uncouple the gearmotor pinion assembly at one of the displays, they get right down to cases on design details. Removing the coupling, they observe how the splines on the pinion shaft broach themselves into the recessed motor shaft. In the process, two more ideas in action are absorbed, (1) Failure-proof connection between motor and gears and (2) Quick easy disassembly. The wear-resistant gear hardness and extra compactness of the Howell gearmotor get attention, too. It's a demonstration of a low-maintenance, long life power package.

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with others of its general type (papain, ficin, fungal and bacterial enzymes grown from cultures, and animal enzymes recovered as by-products of meat packing) and to find similar uses in cleaning hides, removing gummy substances from raw silk, and clarifying beverages.

Speckles and spangles can give products a new outlook:

From Alcoa comes word of a new "spangled aluminum" that glitters like a jeweled surface. It is based on a new alloy in which abnormally large grains can be developed. Etching the surface of this alloy then makes the grains stand out so that their myriad facets reflect light to give a spangled or jeweled effect. The sheet can be supplied in natural color or in anodized finishes.

Pittsburgh Plate Glass Company has a new varicolored "Spatter Finish" paint which can be applied to walls, woodwork, and furniture by standard spray techniques using a single nozzle. Because the color flecks (gray, brown, and white) are suspended in a clear lacquer, a variety of effects can be obtained by letting the background paint show through.

Ultra-thin metal strip (down to 0.00012 inch, with tolerances held to five ten-thousandths) is offered by Allied Products Division of Hamilton Watch for use in diaphragms, relays, springs, shims, feeler gages, magnetic cores. Strip can be supplied in a wide range of materials, from high-alloy steels to light metals.

Transistorized speakers for two-way radio installations are now obtainable from Motorola, Inc., Communications and Electronics Division. Motorola says the new speakers accent voice frequencies but suppress ignition noise and other interference, provide up to ten times the audio output of standard passive speakers.

For users of aluminum, there are two excellent new publications: Alcoa's comprehensive *Aluminum Handbook* and Reynolds Metals' *Casting Aluminum*. Both are free if requests are made on company letterhead stationery. For the handbook, write to Alcoa, 781 Alcoa Building, Pittsburgh 19, Pa.; for the casting manual, Reynolds Metals, Desk PR-4810, 2500 S. Third St., Louisville 1, Ky.

more news on page 108

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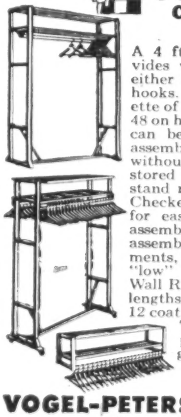

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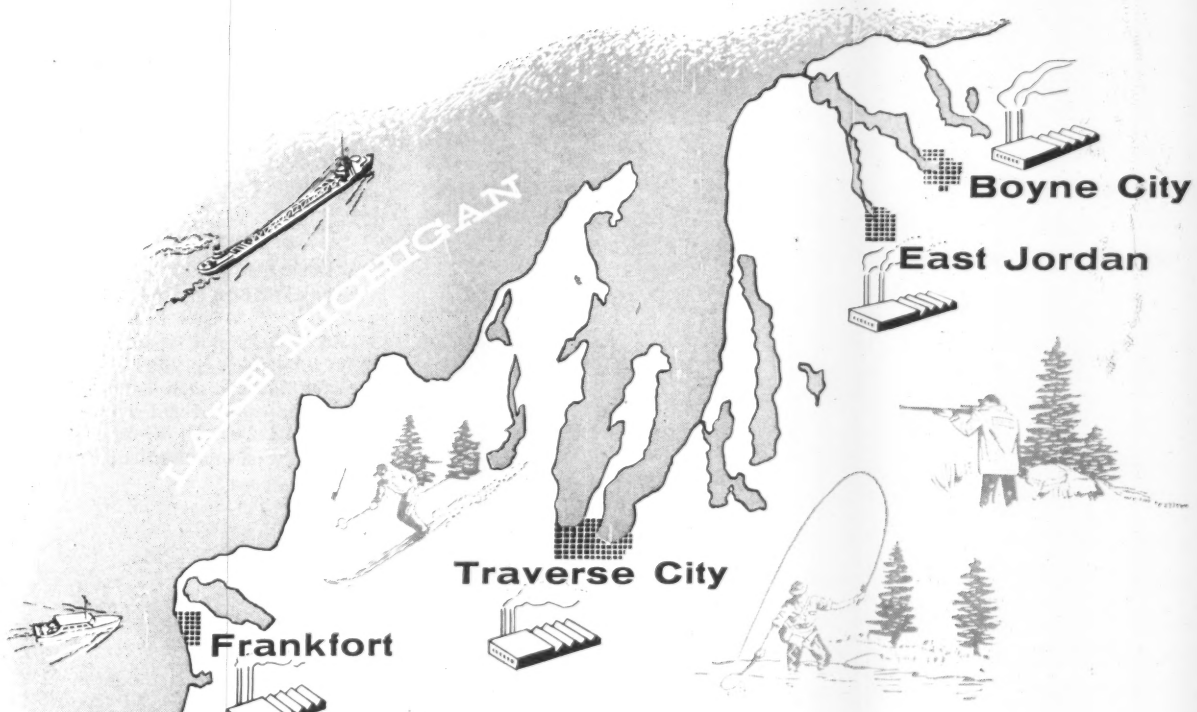

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GRAND FOR INDUSTRY

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The St. Lawrence Seaway and the Mackinac Bridge heighten the advantages offered to industry by the port cities of the Grand Traverse Bay Region in Outstate Michigan.

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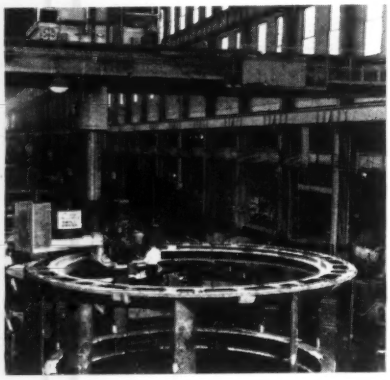
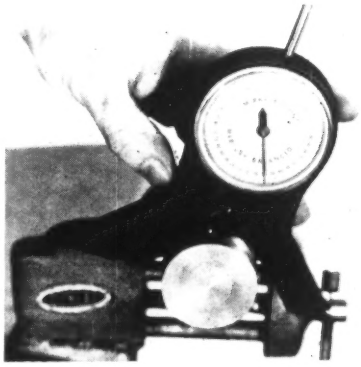
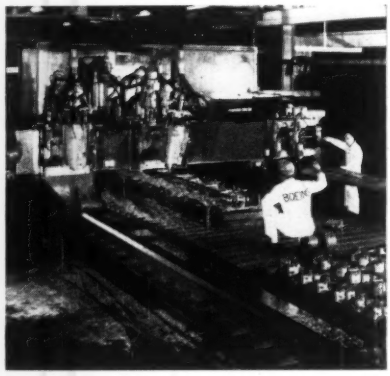
Giving machines



RADIAL DRILL gets a lift from overhead crane at Allis-Chalmers. Without it, machine would have to be set on blocks to drill, ream, and tap holes in this big turbine stay-ring. It's 12 feet high, nearly 32 feet in diameter, weighs 154,000 pounds. Turbine is one of eight being built for St. Lawrence River Hydraulic Project at Barnhart Island.



POINT INDICATOR simplifies layout of work for machining by determining angles and centerpoints automatically. Made by Racine Instrument Company, it consists of a mercury-balanced level and a calibrated dial, mounted on a magnetized V-base. Center punch running through instrument can be used to mark point locations.

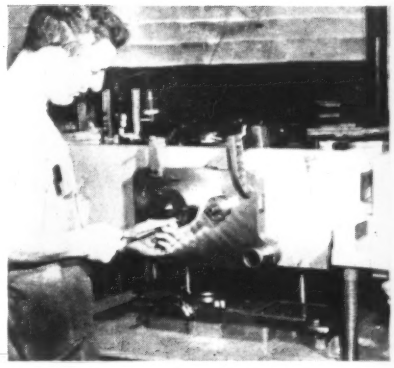


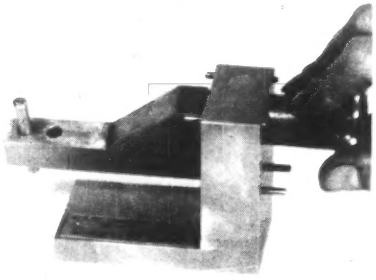
TRACER CONTROL guides big milling machines at Boeing Airplane Company's Wichita plant, helps boost production, increase precision. Machines are made by Onsrud; controls by General Electric. At a cutting rate of 30 inches a minute, GE says an accuracy of two to three thousandths of an inch can be held on repetitive operations.

ROUTER cleans and oils itself, making use of its own exhaust air, at Martin plant in Baltimore. Formerly, lubricant was applied by hand with paint brush and chips were blown away with separate air hose. Now, air tube attached to exhaust port not only blows away chips, but also sprays lubricant (from oil cup at right) on cutters.

a helping hand

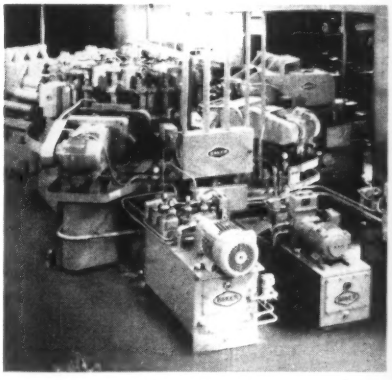
DIES can be positioned, tested, and adjusted while held by this *Die-Part Portelevator*. This type of job usually requires multiple clamping and unclamping operations as die is moved back and forth from work bench to proving press. The Portelevator, here provided with a tilting top plate, is made by Hamilton Tool Company.

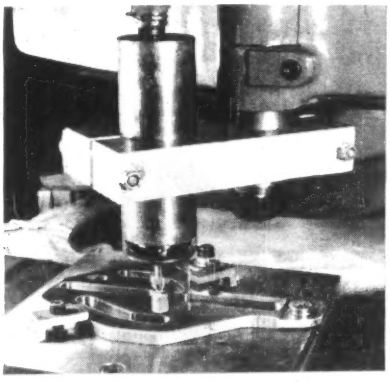




SMALL RADIUS DRESSER that "performs the same dressing operations as larger, more expensive models" can be positioned without removing wheel guard, and set by micrometer measurement of distance from top of measuring hood to bottom of dresser arm. Called the "Somerset Jr.," it can be used on abrasive wheels up to one-half inch thick.

INDEXING TABLE harnesses five separate machines into a team for machining jet nozzle bits. Here, *Baker Basics* are set up to load two parts, center drill, drill, counterbore, ream, and recess. According to Baker Brothers, which builds the machines and indexing table, the production rate on jobs of this type can be well over 100 parts an hour.





PRECISION GRINDER is made by replacing conventional cutting head of die-sinking machine with high-speed air motor. Martin engineers devised set-up when special grinder could not be obtained for short-run toolmaking job. Pantograph tracer, standard feature of die-sinking machine, makes it particularly adaptable for the purpose.

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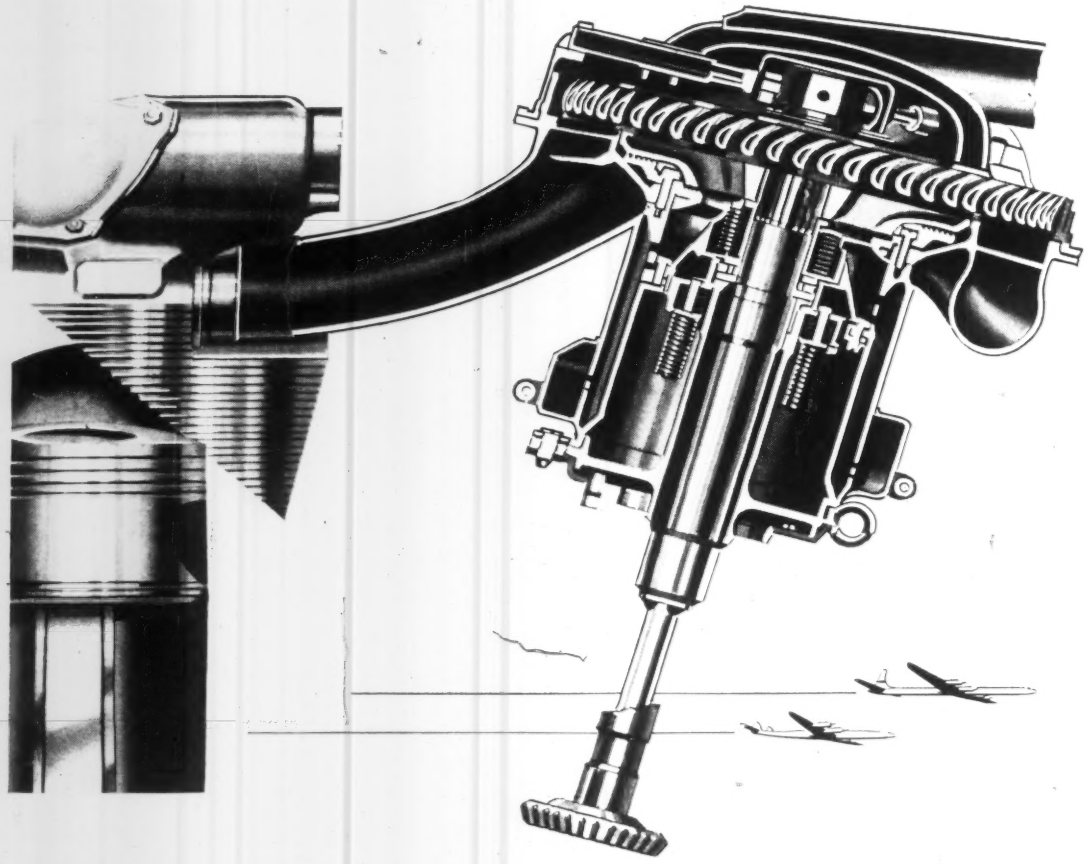
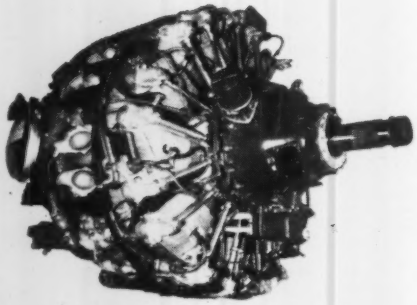


The turbine that transformed air travel



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GROUP AS WELL AS PERSON SHAPES THE EXECUTIVE

WHICH IS MORE important in the making of executive success—the man's own drives and personality, or the influence upon him of the group in and with which he works? The best answer, as might be guessed, is probably "neither." That, in any case, is the logical conclusion that 31 top utility company managers could draw from opposing advice given them at the recent Utility Management Workshop conducted by Columbia University's Department of Industrial and Management Engineering at Arden House, the school's luxurious educational retreat in the Catskill Mountains.

Posing questions for which there is no general right or wrong answer, except in the context of a specific situation, is part of the technique of the annual workshops, of which this year's is the fifth. Professor Robert T. Livingston, director, wants to stress the fact that generalizations can be made only on the *approach* to problems.

Approach, the workshop also made clear, is important because of the magnitude of the manager's job, the span of *kinds* of activities he must deal with, from over-all management of a huge corporation down to the very personal details of dealing with important individuals in his own group.

In one of the presentations Dr. Melvin Thorner, department of neurology, Hospital of the University of Pennsylvania, told seminarians that understanding oneself and one's individual resources is the first step in becoming a good manager. (His talk was titled, "Are Managers People?"—see pictures below—and his answer was "Yes.")

Older men tend to make conservative decisions more frequently than younger men, he said, but "the record of the classes of decisions that a man makes is as characteristic of him as his face or his name for any period of his life."

"Decision patterns," he elaborated, "do have a kind of individuality. They are subject to change, but the range of this individual change is usually small compared to the differences among people. Just as one does not suddenly start to speak in an unfamiliar foreign language, one does not often change his patterns of job response radically or suddenly."

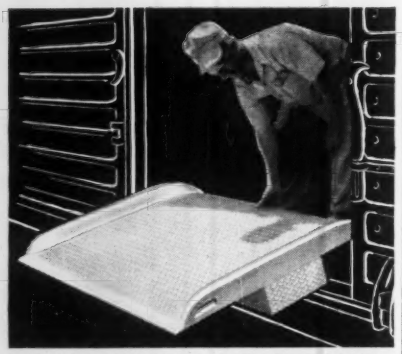
Dr. Thorner cited a corporation president who discovered, after dealing for two years with the same group of research engineers, that he could predict their individual votes on alternative decision problems with such high accuracy that he was tempted to dissolve the group. It could tell him nothing he could not find out without consulting it.

Franklin O. Rouse, then workshop assistant director, took off on the opposite course in a talk on "People in Groups." People act differently in different groups and when playing different roles, because their relations with different groups or with different individuals within a group change from group to group, Rouse told the utility men, many of them company presidents.

A good deal is now known about the dynamics of small groups—three to six people—he said, and executives who attempt to deal with individuals only on the basis of their individual psychologies, without reference to group motives and pressures, are passing up half the balls pitched to them without even swinging.

ARE MANAGERS PEOPLE?

Melvin W. Thorner, M.D. (left), put the question to top executives (below) taking part in annual Utility Management Workshop. Workshop Director Robert Livingston (right) ponders answer.



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BUSINESS MEN, TEACHERS . . . *continued from page 53*

David Sarnoff, chairman of the board of Radio Corporation of America, last January made a somewhat similar suggestion, but for a more temporary solution of the problem, in an address before the National Security Industrial Association in Washington.

"I propose," General Sarnoff said, "the establishment of a 'National Educational Reserve' comprising qualified teachers in mathematics, physics, chemistry, engineering, and related subjects, to be drawn from the technological ranks of industry. I have in mind the release—and with full pay for at least a year—of a reasonable number of men and women for teaching assignments in their local schools. This unique Reserve could also mobilize those who have reached the retirement age in the military services and in industry, but whose knowledge and experience would make them inspiring teachers. In addition, it could include qualified people willing to volunteer their services to teach in night schools without giving up their industry jobs.

"The number of teachers recruited from any single organization would be too small to entail hardship for any one—but the total number comprising the corps could be drawn from such an extensive list of organizations that it would be large enough to give new impetus to teaching of the sciences in our school system. This would be especially true at the high school level, which is our present major bottleneck.

"This Educational Reserve would, of course, have to be strictly an interim program, let's say for five years, to help meet an immediate situation. Moreover, whether the initiative is taken by industry or government, the plan itself would naturally be drawn with the consent and cooperation of school authorities, who would prescribe the courses and regulate the instruction. . . .

"Because of their practical experience, teachers in the Educational Reserve Corps would bring the breath of living reality into the classroom. They would help restore the sense of adventure to technical careers and inspire many an able and imaginative student to follow the scientific and technological disciplines into the college years."

One concern with widely varied programs of industry-education cooperation is the Detroit Edison Company, which last Summer employed 16 high school teachers and college professors. It has been doing this for several years.

Employment Director Amerman asks college deans and high school department heads through the Winter and Spring to suggest men who would like and profit from Summer employment. Then, with the man-specifications in hand, he consults company department heads who he thinks might be able to make good use of such recruits.

For the first year, the teachers' salaries and travel expenses are paid out of a special unit of Amerman's budget. If some department head likes an instructor's work well enough to want to hire him for future Summers, the burden is transferred to the departmental budget.

One mechanical engineering professor, for example, spent a Summer at the utility on the employment department's budget, establishing a training course, then was kept on a regular department's budget for three or four Summers more, continuing the program.

Most of the Summer recruits, Amerman says, are brought in for special projects fitting their academic backgrounds. A psychologist may be used for a special study in the Department of Employee Communications and Research, a well-defined project that can be carried out in the six to eight weeks available, for which there may not be a staff man handy. Most of the teachers are used in production, accounting and engineering departments.

Detroit Edison used an English professor one year to give instruction in better letter writing in the sales and collection departments.

Some of the educators serve essentially as consultants. Their fresh viewpoints, uninhibited by routine, often stimulate new ideas among company personnel. Conversely, company practice often brings the teachers up to date on practices that have changed since they earned their degrees. For a small instance, an engineering instructor who had been compelling his students to labor over drafting tables making ink tracings for blueprinting was surprised to find that Detroit Edison had aban-

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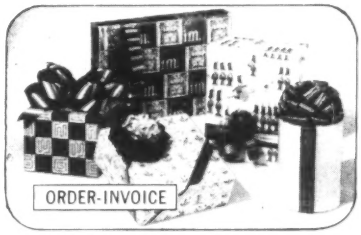

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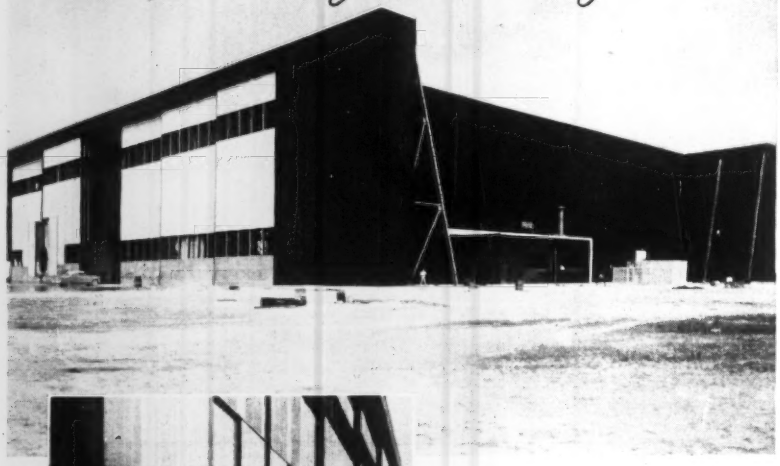
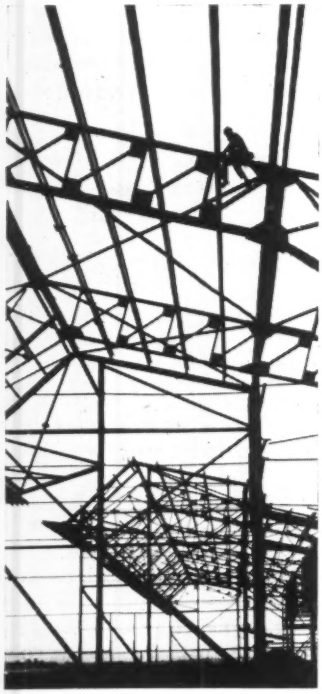


New warehouse at Portsmouth, New Hampshire, Air Force Base. All structural steel and doors for this building and seven wing hangars — plus all doors for a maintenance hangar — by International.



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doned such time-consuming procedure ten years ago; new reproduction methods make it unnecessary.

Detroit Edison also awards two fellowships annually to academic men chosen by the Foundation for Economic Education. Another organization which promotes such industry-education interchanges is the American Society for Engineering Education, headquartered at Ames, Iowa.

Besides the man lent full-time to Wayne University, Detroit Edison has also had staff men teaching off-hours courses at the University of Detroit and at nearby Wayne State University. Once a year, too, it has conducted a week-long seminar for selected college faculty members who are given a view of the company operations they are interested in and then meet at length with company officials to ask questions, offer suggestions, take up any problems either party desires.

This year the company pulled a switch on the seminar—participants were all faculty members who had had Summer employment in the past, gathered for an "alumni" reunion and recapitulation of the use they and their onetime employer had made of their experience at Detroit Edison.

Forecasting Skill Needs

One informal development in the Detroit situation has been the exchange of ideas and improvement of relations with high school career counselors, which it is expected will result in the better adaptation of future graduates to the kinds of jobs that will be available to them in industry. Forecasting of industrial skill needs is carried out even more formally elsewhere, as in Cleveland, Ohio, where a committee of the Associated Industries of that city regularly supplies such information to school heads.

Typical of the best fellowship programs, except that it involves high school teachers rather than college instructors, is the Summer Science Fellowship Program at the Allis-Chalmers Manufacturing Company's main plant in Milwaukee, Wis. Three teachers from neighboring schools were award winners this past Summer (see pictures, page 51).

Fresh from science classes, they went on to become students of industrial practice themselves at Allis-Chalmers from June 25 to July 27.

Their highly organized program took them to the company's research division, industries group engineering departments, tractor group engineering department, foundries and pattern shops, and the administrative division. In each there was a pattern of preliminary discussion with top executives on the first day, or every morning, followed by a tour and study of the unit, and then by a concluding discussion of the day's or week's activities, usually presided over by the operating head of the division or department. Luncheons with executives were frequent.

The program was more than just a look-see affair, however. To the greatest extent possible, the teachers were given sample experience in operations, measurement, use of controls, so as to get the hand-feel of operations as well as the word-knowledge.

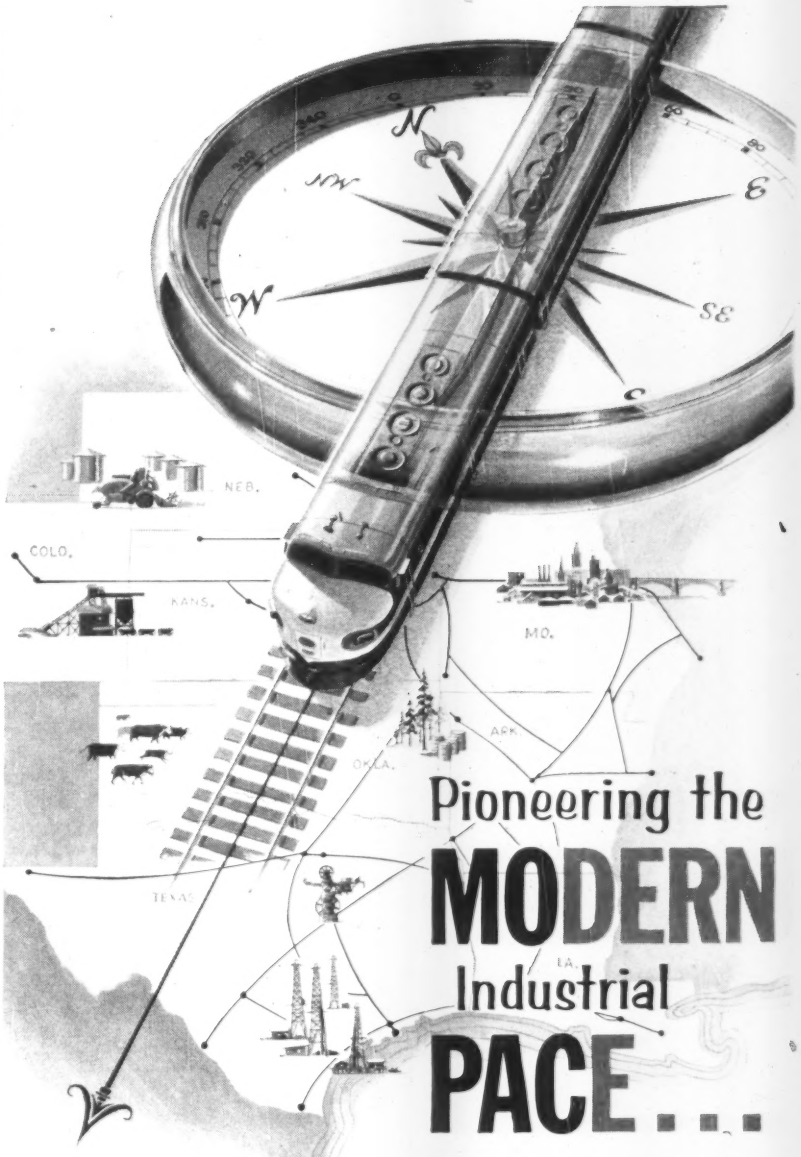
More Than a Gander

Detroit Edison's evaluation of its cooperative programs sums up fairly well the major reactions of most participants in the Foundation for Economic Education's programs. Major benefits they see are the promotion of understanding between groups, improvement of school curricula, refreshing outside opinions on company practice, supplementing educational salaries by the income from useful and interesting Summer work, thus keeping good men on academic payrolls, and general assistance to good public relations.

The Foundation's findings, which are available, are based on its own querying of industry and educational participants, and on a poll by the Opinion Research Corporation.

The American Society for Engineering Education reports that one large employer found that of 160 such Summer personnel 120 "more than paid their way" and the nature of the employment of the others was such that no dollars and cents value could be put on it.

Industry's financial aid for education, which has been forthcoming in rapidly increasing amounts in the last few years, is necessary and is of great help to students, schools, and the community. But even more fruitful in this regard, it appears, may be the "Point Four" programs under which business and education lend each other experts to develop more thoroughly the potentials of each.



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Plant sites are plentiful on the doorstep of vast natural and agricultural resources. They find a ready, willing labor supply . . . and dependable transportation like Mo-Pac's efficient 10,000-mile rail network to bring the great and growing markets of the West-Southwest even closer.

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MISSOURI PACIFIC LINES

ROUTE OF THE EAGLES

OLD HANDS AT EXPANSION

ONE of the finest examples of company growth is the brewery of C. Schmidt & Sons, Inc., Philadelphia, and their subsidiary in Norristown, Penna., whose achievements in the development of original and improved methods have consistently pioneered new standards in the brewing industry.

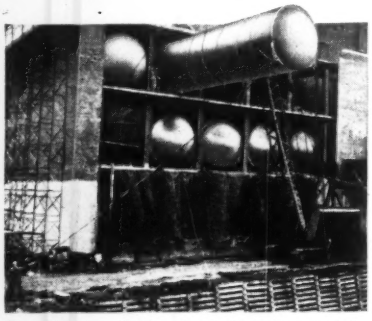
In 1933, when management embarked on a long-range series of expansion and modernization programs, annual brewing capacity was little more than 200,000 barrels.

Today, "Schmidt's of Philadelphia" can produce over two million barrels . . . the result of perpetual research, a multi-million dollar investment, and coordinated "turnkey" services by Kuljian.

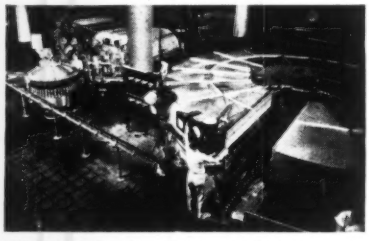
Schmidt's success demonstrates the wisdom of using *single source* engineering services—the Kuljian "turnkey" system of integrated planning, design, engineering, procurement, and construction supervision.

We would like to see *more* businesses use this simple, economical procedure whenever outside engineering services are needed . . . even to include initial operation of the finished project. Try it yourself, next time you're planning a building program.

No matter what your industry—or the problem involved—we serve you well in the preparation of your plans for tomorrow.



One of 30 glass-lined storage tanks undergoing delicate hoisting operation. Tank weighs 18 tons—has 1200-barrel capacity.



The Bottling Department now contains 11 complete lines in both plants—for washing, filling, and pasteurizing two million bottles and cans a day.

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FOREIGN MARKETS . . .

continued from page 41

ply our most modern marketing and merchandising skills with success.

Recent developments are forcing serious study of business opportunities abroad. The American Management Association reports that it has received hundreds of inquiries from companies that are interested in either entering foreign trade or learning how to expand and develop their export activities into the more complex phase of overseas operations. The interest stems from many motives:

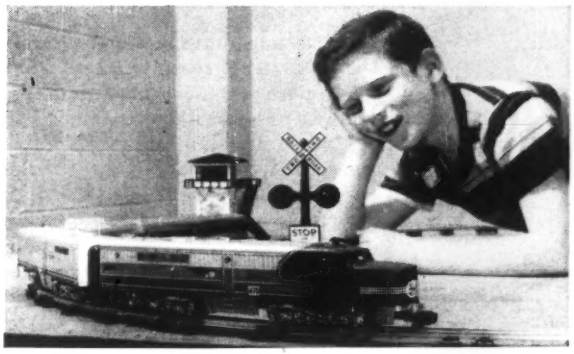
Fear of a general recession, sparked by declines in some business areas, may be inspiring hope that foreign markets will prove a temporary refuge against declining sales at home. However, this rather negative approach to the foreign business frontier is usually limited to an interest in export prospects.

Growing industrialization abroad, sometimes sponsored by governments eager to conserve foreign exchange, is forcing many exporters to consider foreign manufacture. Australia's import license system, for instance, confronts many American industries with the alternative of manufacturing there or getting out of this important market altogether.

Manufacturers who export are considering foreign production to meet stiffening competition from other American and European companies that are already on the ground with manufacturing facilities. Some companies have already lost a leading market position built on distribution of American-made products and now face the uphill task of regaining the market as late entrants in the foreign manufacturing field.

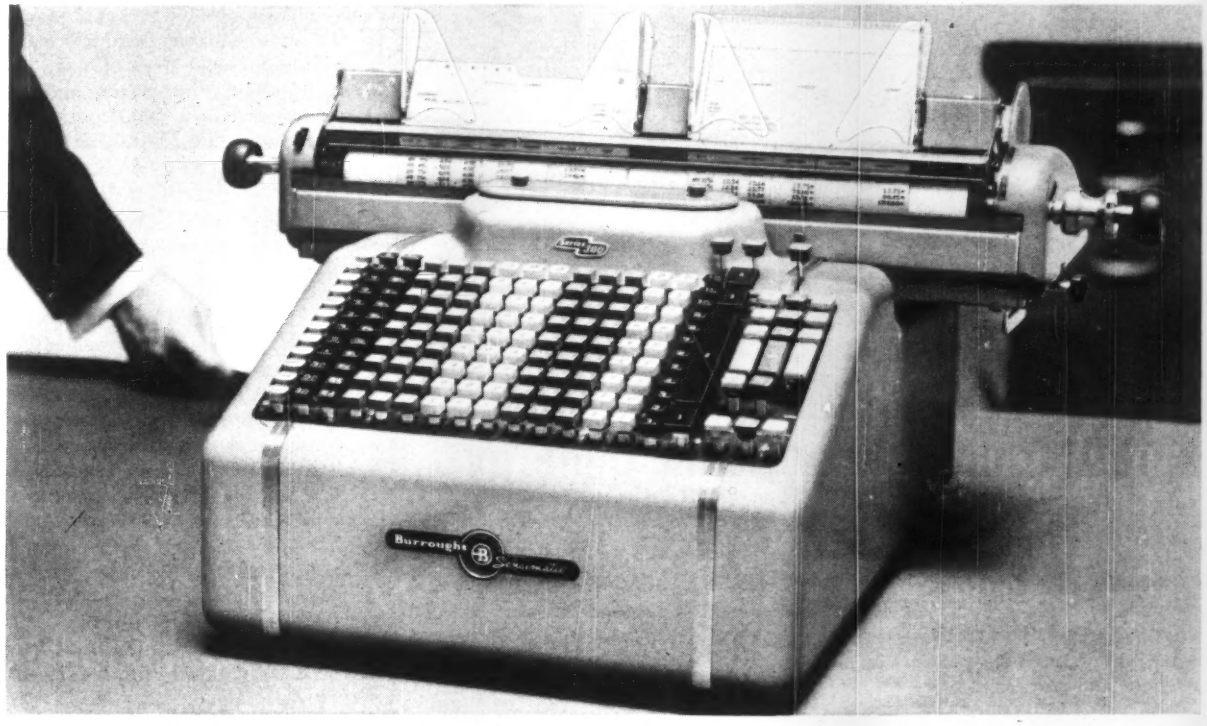
Foreign Operations Policy

Decisions based on expediency are tempting in the foreign field. Crises blow up quickly from unexpected sources and the problems of different markets vary widely. It is very easy, under these circumstances, for a company to keep so busy batting down the balls thrown at it that it does not have time to get control of the ball itself. The result is that, if it is forced by a sudden government regulation to scramble for local facilities, it may sell its birthright in an important market for expediency.



Big – like A.C.Gilbert Company

Or Small – like Miller's of Johnstown



See how a Burroughs Sensimatic pays its way year after year

Like all users of Burroughs Sensimatic Accounting Machines, you, too, will discover: With Sensimatics you reap fat dividends in overhead savings year in, year out.

The reasons? Well, let's just see what two typical users did find after installing these machines.

From New Haven, Conn., one of the world's largest toy manufacturers, The A. C. Gilbert Company, reports:

"Our American Flyer trains, Erector Sets and other toy and appliance lines call for a tremendous volume of bookkeeping. We need machines to eliminate all possible operator toil and trouble. That's why we use Sensimatics—just *four* of them—to wrap up our major accounting jobs. Return on our Sensimatic investment? Almost 100% annually!"

And locally prominent Miller's of Johnstown, a 15-employee men's wear store in Pennsylvania, says this:

"We had a problem—to keep sales and receipts up to date with one cashier-bookkeeper. *One* Sensimatic did the trick! Now we post sales and payments right at the time of each transaction . . . in just seconds, too! Another thing, now our Sales Distribution Journal is only a 15-minute job—a far cry from the five hours it took *before* Sensimatic."

Demonstration? Certainly! No obligation, of course. Just call our nearby branch. Burroughs Corporation, Detroit 32, Michigan.

Wherever There's Business There's

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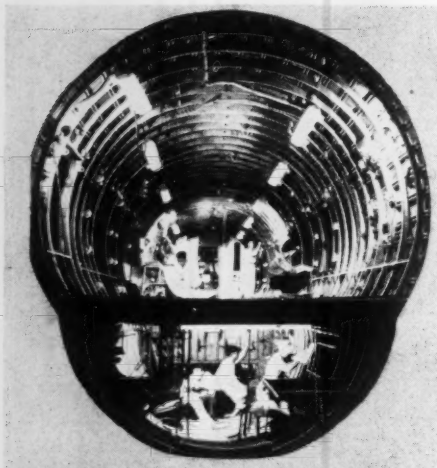
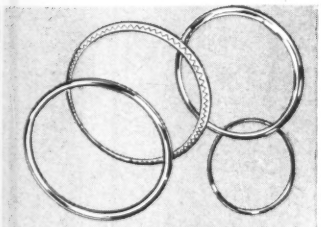
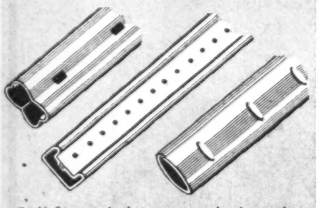


Cold Roll Formed curved ribs and other structurals used in airplanes, metal buildings, etc.

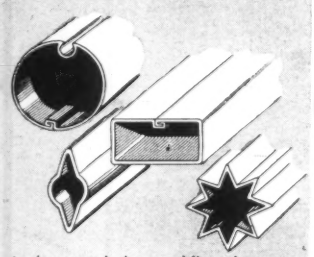


Rings of any size, for a multitude of different uses.



Roll-formed shapes, notched, perforated, indented or embossed.

Metal awnings, rolling doors, etc., made from interlocking roll formed slats.



Lockseam tubular mouldings, in many styles and shapes.

1001 Things Now Being Done by COLD ROLL FORMING

The basic function of a Yoder cold roll forming machine is, of course, to convert flat rolled strip or sheets at high speed into mouldings, panels, tubular, channel and other shapes.

Quite often, these shapes need further elaboration before being ready for assembly or installation. They may, for instance, have to be curved, coiled or made into rings. Or they may need to be perforated at certain intervals of spacing, notched, embossed, or otherwise finished by additional operations.

You may want to combine two or more materials into a finished shape, such as carbon steel with stainless, felt, wood, etc.

These and many other things can be done with Yoder machines at little or no extra cost over and above normal conversion costs, simply by providing special attachments, or by auxiliary units installed in line with the forming mill. So, to the recognized high economy of the cold forming operation itself, other important production economies may be added. Yoder engineers are at your service in designing equipment of this kind.

The Yoder Book on Cold Roll Forming is a complete text, profusely illustrated, on the art and its scope, the machines, their tooling and application to a multiplicity of mass production needs. A copy is yours for the asking.

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What most companies need is a thoroughgoing reappraisal of their long-range foreign potentials and a plan for organizing to realize them. A company planning to enter or expand foreign operations must define its goals, its policies, its organization structure, and its human and financial resources, just as it does in planning domestic operations. It must then look at these characteristics in terms of the new environment.

How Fast? In defining its goals, a company has to decide how extensively, how rapidly, and how completely it plans to develop its overseas operations. Some companies, thanks to a unique product, have been able to set a goal of virtually blanketing most important markets in a comparatively short period of time. Others have established an equally extensive goal for themselves, but have decided to pursue it gradually, country by country or area by area, as developments permit, and on as complete a basis as possible. Still others have resolved to concentrate on what they believe to be the most promising areas rather than extend themselves everywhere.

What Distribution Policy? Overseas production and distribution may not embrace as complete a line as is handled domestically. For instance, a drug company selling a line of 1,000 or more products at home may market only 10 per cent of these items abroad.

Domestic advertising themes may not be appropriate. A company that promoted its products exclusively by direct mail at home found it necessary to use salesmen abroad.

Points like these must be worked out for each market.

What Organization Structure? It will be necessary to ascertain what kind of an organization must be established, both at home headquarters and in the various overseas markets. Some types of activity will necessitate an extensive headquarters organization with considerable independence from domestic operations; others may only require a small supervisory staff and an organization that is highly integrated with the domestic company. As one overseas company described it, "Our home office headquarters is essentially a brain trust, and we call on our domestic company for most services that are needed."

In the field, the organizational set-

up will depend on the nature of the activity carried out there. A company that manufactures a simple product, such as a hair tonic, may be able to conduct its operations in a given foreign market in relatively small quarters and with a relatively limited staff. On the other hand, a company producing a more complex product may find it must duplicate, on a minor scale, all the functions performed at home by the parent company, including product research and development.

What Kind of Staff? Regardless of the kind of policies that may be adopted for the organization and supervision of overseas operations, one of the most essential steps is securing competent people for executive posts in the foreign subsidiaries and affiliates. The first task here is to find out to what extent local people can be used and how much training they will need. This will help determine how many people from home will be required.

Personnel a Key Consideration

These are important problems. The company's success in overseas markets will depend to a high degree on its ability to cope with them.

If good personnel are always a major factor in success at home, they are perhaps more so abroad, where distance and other circumstances necessitate relying more heavily on them for effective results. Inevitably the judgment of men in subsidiaries abroad is the controlling factor. This is true whether the overseas unit operates under a tight or a loose system of control. If local executives are relied upon primarily, the success or failure of the foreign operations will depend almost entirely on the quality of the men to whom this responsibility is given.

Good local personnel can be obtained, and company loyalty can be inspired. The president of a company that had been unusually successful in overseas operations tells how, when the Germans occupied Paris in the last war, one of their tanks rolling up the Champs-Elysées stopped precipitously in front of the company's offices in that city. A smartly uniformed lieutenant jumped out, ran to the door, and rapped on it peremptorily demanding admission. A French executive of the company opened the door. Before he could open his mouth, the German said: "I

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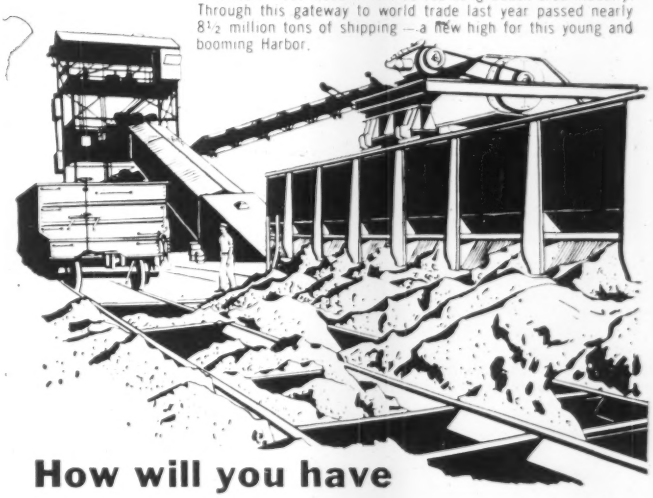

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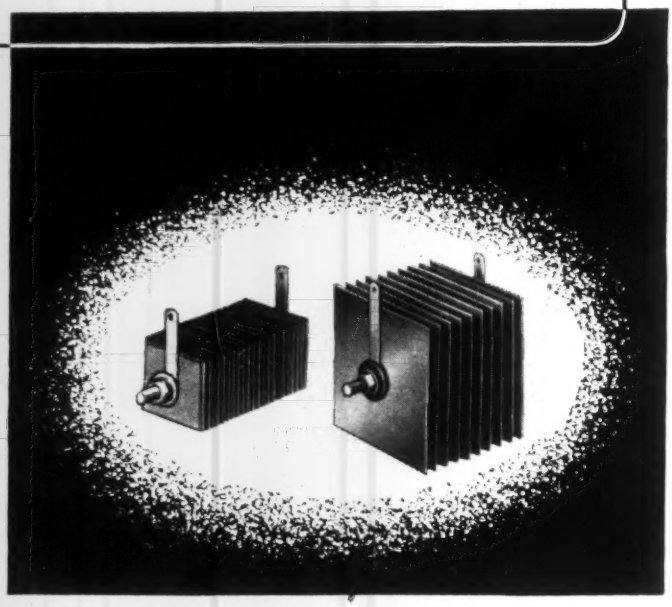

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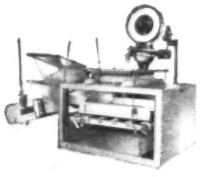

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am Lieutenant Schmidt from the company's Berlin office; I just wanted to know whether you fellows made quota last month."

What Financing? The company must determine in what manner and to what extent it will underwrite its proposed activities. Will it finance its overseas operations on open account? Will it borrow money in the local countries, and how? Will it pursue a policy of bringing home profits as promptly as they are made, or will it devote part of them to expansion and development in the country where they were earned?

Foreign operations planning

Specific plans for carrying out foreign operations policies must be adapted to each local situation as well as to the total foreign environment. Many matters that are taken for granted at home require close study.

Will the enterprise favor unqualified ownership of the corporate instrumentalities it uses, or will it consider shared ownership? Will it manufacture its products in its own installation, or will it contract manufacturing to outsiders? Will it endeavor to protect its rights through an intricate licensing agreement with a manufacturer, who will also be given the exclusive right to market its products?

Will local corporations be used or branches of U.S. corporations? Will utilizing a Western Hemisphere Trade Corporation serve a useful purpose? What about tax-haven corporations? How should corporate control over subsidiaries be set up? The experience of other companies is interesting and useful, but will not necessarily apply in a particular case. The decision will have to be made in relation to the individual goals and resources of the enterprise.

What Form of Ownership? The question of stock ownership is a difficult one to answer. Most companies will reply unqualifiedly that they want 100 per cent ownership of their subsidiaries. However, these same companies, many of which have been operating abroad for a substantial period of time, recognize that shared ownership is almost essential for success in certain countries. Moreover, even in countries where they enjoy a wholly owned position, they recognize that today they may find it nec-

essary or desirable to share ownership in order to operate effectively. Among the countries most commonly mentioned are: Japan, India, France, Spain, and Italy.

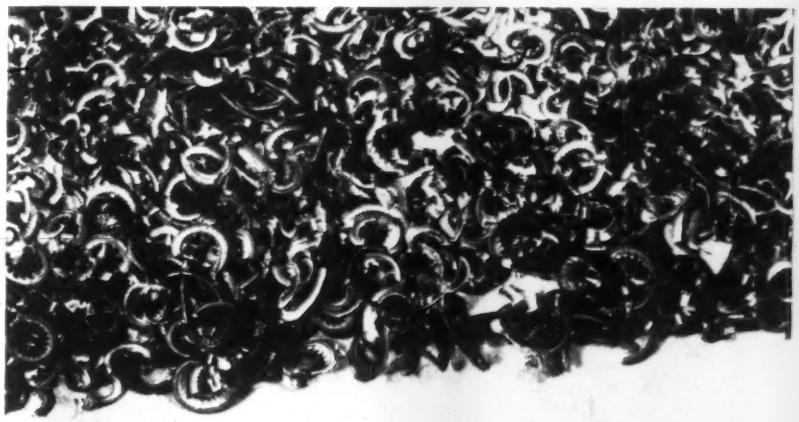
The advantage of unqualified ownership is somewhat obvious—namely, undisputed control of your destiny. However, in certain countries, especially when a company is extremely large or holds a predominant position, this may become a public relations problem.

A good example is the situation that General Motors is facing in Australia. It has become so successful and represents such a significant factor in the country's total economy that its position has been questioned in newspapers and in Parliament. Recently some 8 per cent of Australia's dollar exchange was utilized in servicing General Motors' investment in that country, even though part of its total earnings were retained for expansion purposes.

Naturally, this is an unusual case, but in many countries where nationalism, protectionism, or similar restraining factors are strong, the advantage of having the proper local partner may be a paramount consideration. This may prove essential if governmental approvals are required to establish the operation, to secure import licenses for equipment and machinery, to remit royalties and dividends, and so on.

But there are disadvantages: (1) It is difficult to select a partner who has the necessary integrity and business ability. (2) Once he is found there is still the problem of making the relationship work out successfully. There may be many points of conflict. (3) Many foreign investors want a high immediate return, and are reluctant to see earnings ploughed back for investment. (4) The local partners may wish to intervene too much in management policy matters, and their knowledge of the country will give force to their arguments.

There are many ways in which these problems may be mitigated, although they cannot be eliminated. The local partners may be brought in on a preferred participating stock basis. If they insist on common stock, they may be given options to buy it based on preferred stock ownership. The options can be made exercisable only after a period of time that will enable the venture to get off the ground.



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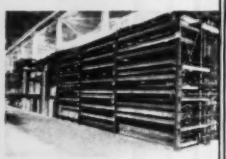

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Experienced companies that have lived successfully with this type of ownership will tell you that it requires a great deal of sophistication and that such associations should be undertaken only after a thorough examination of all the facts. Inattention to this relationship has caused no end of trouble for many American companies. Enterprises that are relatively new to the overseas field are particularly vulnerable since they may feel that this approach may accelerate the expansion of their overseas operations by providing them immediately with both capital and management resources.

Who Should Manufacture? Where a company has established a market adequate to support a manufacturing installation of its own, this appears to be an ideal plan. However, if this would necessitate bringing in a substantial amount of capital and there are exchange complications affecting the freedom of capital repatriation and dividend payments, many companies will hesitate to adopt such a solution. On the other hand, if there are substantial sums of accumulated and unremitted profits, manufacture may be a good way to put them to work and protect them from devaluation. Many new or expanded installations built in Argentina and Brazil in the last few years stem from this source.

Some companies do not have the capital available or economic justification for a manufacturing unit of their own. If production is a fairly simple operation, and the need is for domestic supplies to feed the local marketing organization, they can, if they wish, obtain the services of a local factory on a contract basis. Payment may be cost plus a fixed percentage of profit, or the local producer may be cut in on the sales profit as an inducement to keep costs down.

License Arrangements. Where investment conditions are unfavorable or a substantial capital outlay would be necessary, the American company may prefer to secure its local production on a license manufacturing basis. The local manufacturer is the licensee of the American company and a detailed contractual agreement is established to govern relations. The licensee is permitted the use of trademarks, patents, and processes for a royalty based on sales, units of production, or some other

objective standard of measurement. In such a case, he may also serve as the American company's distributor in the local market. Another arrangement could be for the American company to own a marketing company jointly with the licensee.

Many variations are feasible, and the most acceptable will depend on the type of products involved, the character of the market, the qualifications of the licensee, and other circumstances. The most satisfactory arrangement will be one that safeguards the licensor's interest to the necessary extent, permits him freedom to develop his activities satisfactorily, and proves financially rewarding to the licensee. In any case the American company should be sure to examine the exchange position and, if possible, obtain prior government approval for remittance of royalties.

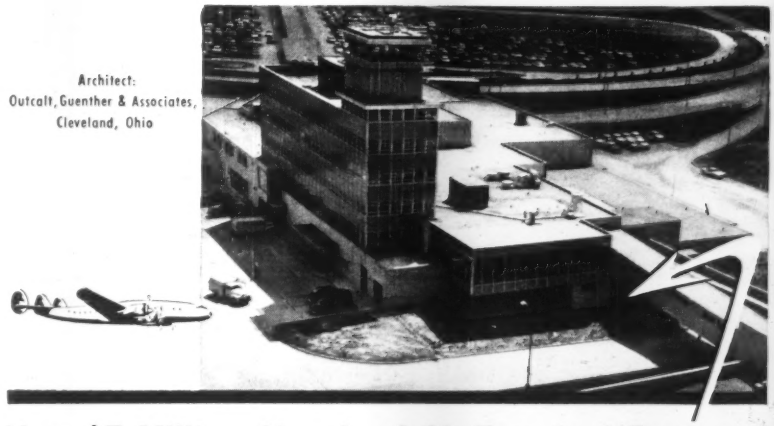
Points to Work Out

These arrangements must be thought out very thoroughly, for it is precisely the workability of licensing agreements that is their acid test. Success will depend on the skill of the licensor in getting along with his licensee and in making the most of his arrangements.

The following are some of the points that must be worked out skillfully in the licensing agreement:

1. How patents, processes, or trademarks may be used.
2. How technical assistance will be rendered.
3. Which products are involved and to what extent.
4. Territory covered by the license.
5. Form and method of compensation.
6. What happens if compensation cannot be paid by licensee.
7. How, if permissible, sub-licensing may be carried out.
8. Duration and cancellation.
9. Arrangement for settlement of disagreements by arbitration.
10. Possibility of assignment.
11. Rights of licensor in developments made by licensee.
12. Visitation and inspection by licensor of facilities.
13. Inspection of accounts.
14. Government approvals if required.

Where a company has a sufficiently substantial sales volume, it will probably wish to have its own distribution vehicle. Where this would be



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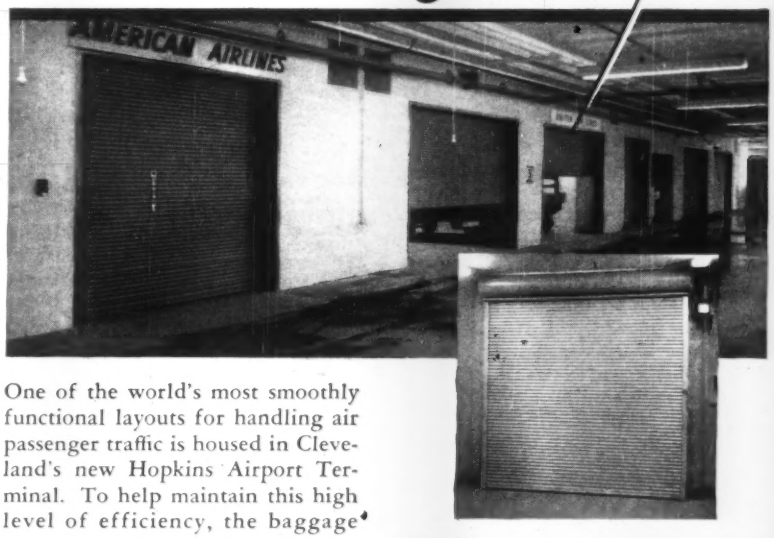
New $5 Million Cleveland Air Terminal Features

Kinnear Rolling Doors



One of the world's most smoothly functional layouts for handling air passenger traffic is housed in Cleveland's new Hopkins Airport Terminal. To help maintain this high level of efficiency, the baggage room is equipped with Kinnear Steel Rolling Doors.

The space-saving coiling upward action of Kinnear Doors has made them top choice through more than a half century of progress in building design, such as this new terminal represents.

Every foot of floor and wall space surrounding Kinnear Rolling Doors — *within an inch or two of the door curtain, either inside or outside the building* — is fully usable at all times.

When closed, the rugged curtain of interlocking steel slats *(originated by Kinnear)* provides extra protection against theft, intrusion, vandalism, storm, accidental damage, and fire. When raised, it clears the entire opening and *stays* out of reach of damage by wind or vehicles.

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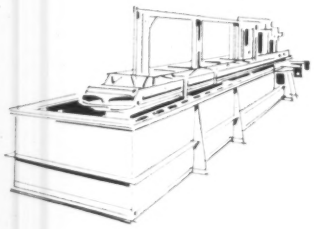

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too costly, it may prefer to channel its entire activity through its licensee. In countries like Japan, where there are obstacles to the independent development of some foreign enterprises, a local manufacturer is often licensed to produce one or more of the company's products.

Branch or Subsidiary Corporation? Companies with sufficient volume in overseas markets to justify their own distribution and or manufacturing installation need to establish some corporate vehicle to carry out their activities.

Although there are exceptions, the trend appears to be to set up a local subsidiary where permanent investment is involved. Since U. S. taxes need not be paid until the profits are brought home, local expansion can be paid for out of retained earnings. There is also greater identification with the local scene, which is important where extreme nationalism is a consideration; and in some countries (for example, in Brazil), the subsidiary can take advantage of local tax benefits not available to branches. In addition, it is possible to raise new capital from local investors.

Where marketing alone is contemplated, however, a branch is usually the answer. It, too, offers many advantages: Corporate control is simpler and easier; there is less local legal control; if the branch is set up as part of a Western Hemisphere Trade Corporation, there are tax advantages. In many countries, also, the branch is treated as a separate legal entity; for example, some will recognize the existence of a contractual licensing agreement between the branch and its headquarters at home, even though from a purely legal standpoint it represents an anomaly.

Western Hemisphere Trade Corporation? The Western Hemisphere Trade Corporation Act permits a corporation organized under its provisions to pay taxes on its income at 38 per cent rather than at the normal 52 per cent rate applicable to an ordinary corporation. Taxes paid on the remaining 62 per cent when it is disbursed as dividends to the parent company amount to an additional 4.83 per cent on total profits; thus the total tax payable is 42.83 per cent, as against the 52 per cent rate the parent corporation would pay if it conducted the business directly.

However, to qualify for the 38 per cent rate certain rather technical requirements must be met: First, the company must be organized to conduct business in the Western Hemisphere, and 95 per cent of its gross income for a three-year period must be derived from sources within the Hemisphere, but outside the United States. Second, 90 per cent of its gross income must be derived from the active conduct of a trade or business.

Compliance with the Act seems easy, but in practice its use raises a number of knotty questions that must be solved in relation to each particular enterprise. Some major problems are:

1. What is embraced by the concept "active conduct of trade or business"? Would dividends and royalties meet this test?

2. What is meant by the clause providing that income must be derived "from sources other than sources within the United States" but within the Western Hemisphere? Generally speaking, this is construed to mean that at some point within the Western Hemisphere and outside the United States, the company must transfer title to the property and pass on to the buyer its beneficial ownership.

3. At what cost may the goods be acquired? Current rulings insist on "an arm's length" basis, but this still leaves undecided what a proper cost to the parent corporation should be in relation to the transfer price.

May Not Suit Purpose

Many companies take advantage of the benefits of a Western Hemisphere Trade Corporation. However, some important ones feel that it does not suit their purposes, because of the "cost" problem, or for other reasons.

Some companies establish one such corporation for all transactions within the Western Hemisphere that fit into the pattern. Others establish one for each country in which they desire to utilize the vehicle. Thus, a company will have a Western Hemisphere Corporation with a single Peruvian branch, and another with a single Brazilian branch. The purpose of this approach appears to be to segregate foreign activities by individual countries. Another consideration is the matter of exchange shortages, which might prevent the remit-

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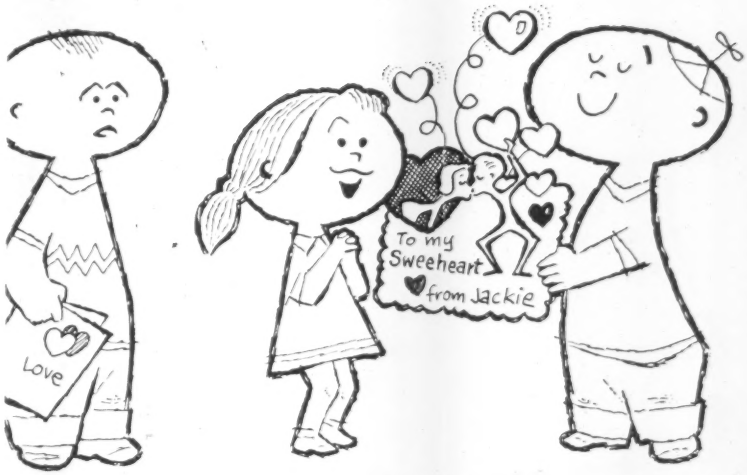

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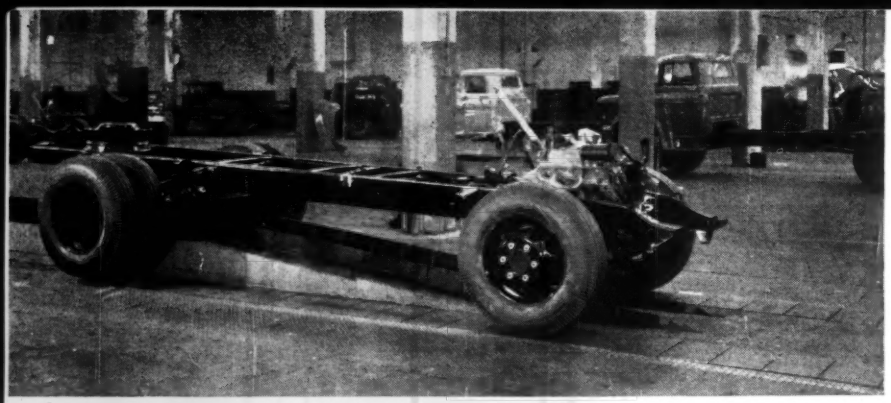

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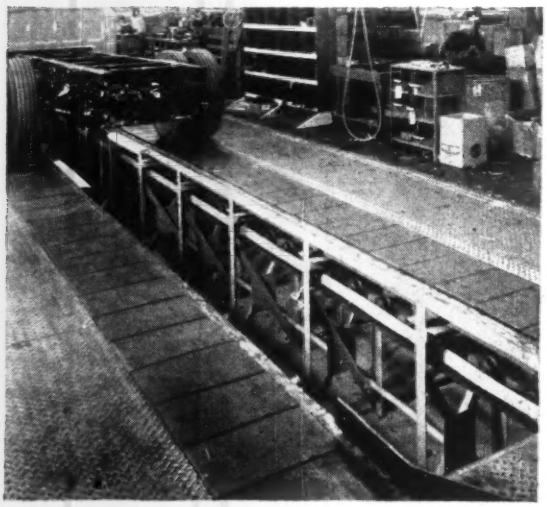

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63

tance of profits from one country, but not from another. Finally, still another plan is to place several countries under one Western Hemisphere Corporation and group others in another such corporation. This may be for the purpose of putting together branches in similar geographic areas or having analogous problems. Another reason would be to balance more prosperous branches with less successful ventures.

The Western Hemisphere vehicle is useful under the proper circumstances, but these will vary depending on the enterprises's own peculiar problems. Generally speaking, also, it also offers certain disadvantages. Among these are the following:

1. A local corporation may plow back profits and utilize them for expansion, without the need of paying the U. S. tax until dividends are brought back home, whereas the Western Hemisphere Corporation is liable for the tax as soon as the profits are earned.

2. A local corporation would be able to take advantage of tax benefits offered to companies that utilize their earnings for expansion, such as those available in Brazil. Under U. S. tax laws, this advantage would not be available to the Western Hemisphere branch.

3. A local corporation makes for more flexible operation since it is not restricted by the technical requirements of the Western Hemisphere Act.

4. A local corporation affords an opportunity to become more closely identified with the country where the activities are conducted, an important consideration in the light of growing nationalism.

Tax Havens. A subject that has generated tremendous interest and may be of great importance to the development of foreign operations is the so-called tax-haven or profit-sanctuary corporation. Any enterprise that is examining its position must explore this subject thoroughly.

Briefly, a tax haven is a country that either has no income tax or taxes income at relatively insignificant rates, and does not tax income from transactions consummated outside its borders. Obviously it must also be one that offers political and economic security.

Why is profit sanctuary an important consideration for companies concerned with foreign operations?

The cost of expansion is increasing and, where a company has to establish manufacturing facilities in several countries, a considerable capital outlay may be involved. Moreover, foreign operations find themselves competing with the corporation's domestic needs for capital.

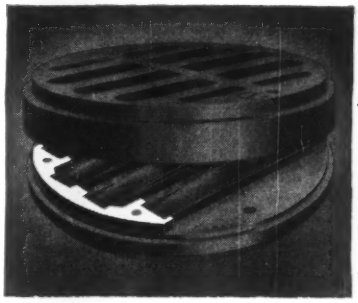
Every $100 of income received by a subsidiary in a country that applies no income tax provides a full $100 for capital expansion. This same $100, if received directly by a U. S. corporation, would provide only $48 for such expansion after payment of our present 52 per cent tax rate. (This would, of course, be modified by any credit available from foreign taxes paid.)

Basic Considerations

But the establishment of a profit-sanctuary corporation can be undertaken, if at all, only after a full examination of the many legal, tax, financial and operational factors involved. A basic consideration is whether or not a real business purpose exists for the creation of a profit-sanctuary corporation. The accumulation of expansion capital must be only incidental to the basic business purpose justifying its creation.

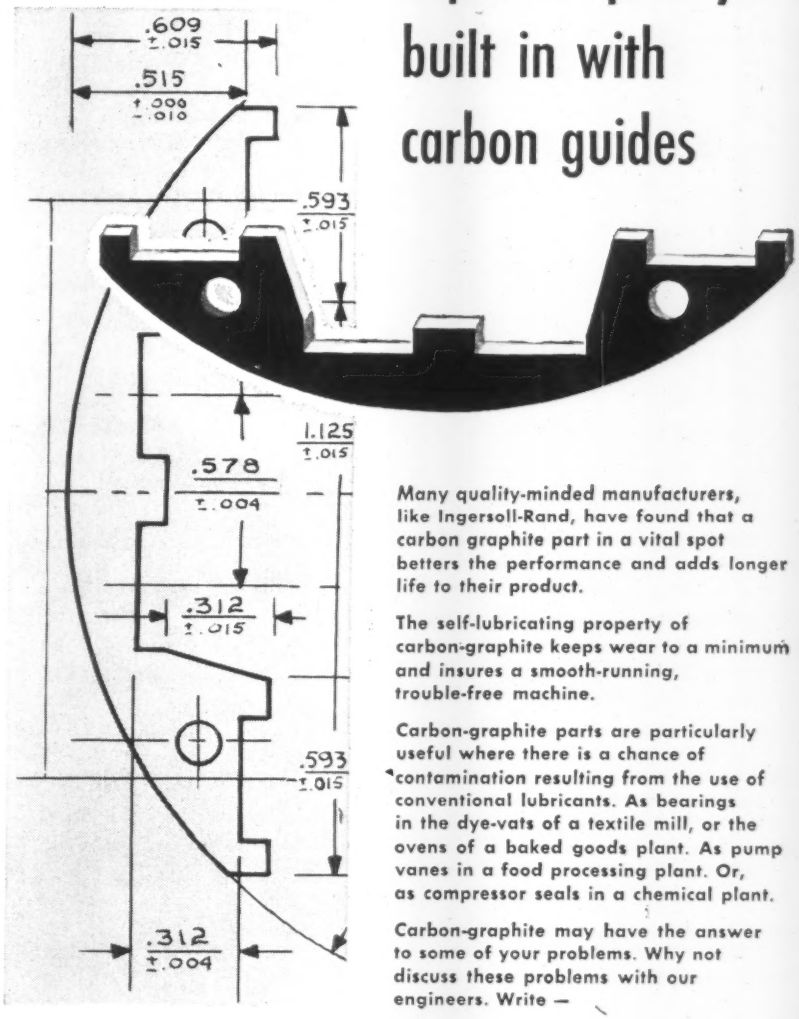
Venezuela, for instance, is one of the countries that may be considered. It does have an income tax, but it is relatively insignificant. Moreover, there is no taxation of income derived from transactions consummated outside of Venezuela.

Therefore, if Company X established a Venezuelan corporation to manufacture and market its products in Venezuela, it probably could utilize this vehicle for tax-haven purposes. It could either make loans to other companies or actually own other subsidiaries for which it would provide capital. Under the proper circumstances, it could also serve as a vehicle for channeling know-how and one with which royalty arrangements could be made. This would serve as another source of income for the parent company's general capital expansion program abroad. The tax-haven corporation, either directly or through a branch, depending on the circumstances, could develop foreign markets. To this end, it could purchase products from the parent corporation at cost plus a reasonable profit. It could then sell these products in the foreign markets it developed, and retain the differ-



Channel valve assembly with carbon guides. Courtesy: Ingersoll-Rand Company, New York.

Channel valves like this have superior quality built in with carbon guides



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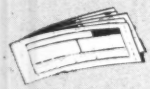

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ence between the price it paid for these goods and what it charged its customers.

These brief comments are in a sense an over-simplification of the possible use of this vehicle for foreign operations. However, they do suggest its potentialities after all the facts have been examined.

It should be pointed out that the use of this instrumentality under the proper circumstances does not involve tax avoidance at all. It merely contemplates tax postponement, for the full U. S. tax will be payable when the profit sanctuary remits dividends to its parent in the United States, or if the corporation is dissolved. Among the many countries offering tax haven advantages, Panama, Venezuela, Liberia, Switzerland, the Bahamas, and Liechtenstein are worthy of special consideration; and certain other countries are fast revising their investment and tax laws to compete for U. S. capital.

Corporate Control of Subsidiaries. Several alternatives are feasible. At one time, many companies felt that it was dangerous for the parent corporation to own any foreign subsidiaries directly, fearing that a foreign government's tax arm might extend itself beyond the realm of the local corporation and endeavor to reach into the pocket of the parent. To avoid this, a subsidiary corporation or corporations were established to own the overseas subsidiaries. Today, this fear has decreased, and direct ownership by the parent corporation is generally preferred. Another factor is the avoidance of an extra dividend tax.

Where tax havens or profit sanctuaries are involved, we find that certain subsidiary overseas companies are owned by the tax-haven or profit-sanctuary corporations. In turn, the tax-haven or profit-sanctuary corporation is owned by the parent corporation.

Another exception may occur where there is a Western Hemisphere Trade Corporation. Although this corporation would be owned directly by the parent corporation, the overseas branches (Latin American and Canadian) would be branches of the Western Hemisphere Corporation.

Formerly, especially during the Excess Profits Tax era, it was common to have an international corporation through which business outside the Western Hemisphere was

channeled. Such a corporation, in turn, might have local overseas branches. More recently, the trend has been to eliminate these corporations and to make the overseas headquarters a division of the parent company. Sometimes the international corporations are retained as paper corporations for future eventualities or as a source of prestige titles for overseas officials.

It would be well-nigh impossible to state generally which pattern is best. It will depend to a great extent on the circumstances of each case. Simplicity is an apparently good reason for centralizing ownership and control in as few corporations as possible. On the other hand, it may well be that a varied pattern will offer greater maneuverability in relation to future developments, especially tax factors, which alter constantly.

A serious reappraisal of foreign potentials should disclose unexpected profit opportunities for those already in foreign markets as well as for those new to the field. Such a study requires special knowledge of foreign conditions and the ability to evaluate them in the company's terms.

This may seem like a difficult management assignment, and it is, but the pot of gold at the end of the rainbow is no mirage to the steadfast. The results achieved by the numerous companies that have been in the field for many years speak for themselves.

THE AUTHOR • Charles Henry Lee is managing director of International Practice of McKinsey & Company, Inc., management consultants. Before joining this company last year, he was associated with the overseas operations of E. R. Squibb & Sons as assistant vice president, assistant to the president, and earlier as managing director of the company's manufacturing subsidiary in Argentina.

Mr. Lee has also served as special assistant to the Assistant Secretary of State for Inter-American Affairs and, during World War II, in a number of State and War Department posts. As a New York and Washington Attorney, he has specialized in foreign corporate matters.

He is a trustee of the United States Inter-American Council and a member of the Council on Foreign Relations, as well as several other organizations concerned with foreign trade and international affairs.

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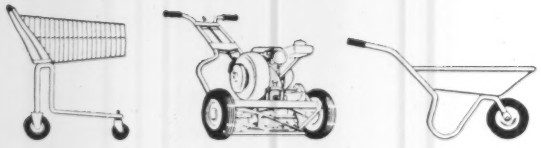

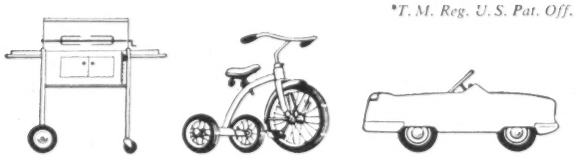

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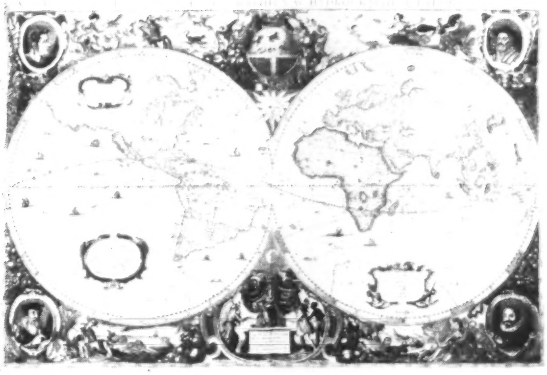

INTERNATIONAL MARKETS

ALEXANDER O. STANLEY, *Editor*,
MARION WEAVER, *Staff Assistant*

DOLLARS AT WORK FOR PROFITS AND PEACE

AS THE GLOBE shrinks, the dollar grows larger in political and economic importance. Even the sterling bloc countries measure their stability against the movement of the dollar in world markets. The prosperity of the free world is anchored to a dollar diplomacy that is impelled by good-will. It helps strengthen the spine of the UN, NATO, and all agencies of mutual protection and service.

There are compensations as well as irritations associated with America's program for tranquillity through trade. If our impulses are often misunderstood, there is nothing new about this trait in humanity. The important fact to consider is the long-term, over-all benefit to the nations that eventually must weigh the difference between Communist promise and American performance.

Naturally, American business men trading abroad and American taxpayers have a right to ask, "What are we getting out of this altruistic attitude?" The answer might be that the question is academic, because we have no choice. American enterprise is a bulwark against the persistent tides of Marxian trading techniques, which attempt to sap the political underpinnings of independent states. We have to be patient and, at times, thick-skinned in the face of criticism. However, we are also getting a return of a more tangible kind. The American dollar in the world market is an excellent investment, and many concerns are finding it possible to build up profitable overseas operations without draining too many of the dollar credits needed as international stabilizers. This is possible through the export of American know-how and equipment, which create a new local wealth and power in the friendly markets of Latin America, Europe, Asia, Africa, and Australia. The currency handicaps are severe, sharing ownership with nationals may be annoying, and local customs may be bothersome; but there is still a substantial plus factor in international trade.

During the past generation, which bridged two wars and a depression, the American exporter, importer, and investor have learned to deal more skillfully with the customer beyond our borders. They have come to recognize the other fellow's right to be different, not only in language and dress but also in custom and tradition and to accept the idea that the foreign customer has a right to buy and sell according to his own training and judgment. In consequence, our commercial travellers have become less bombastic and better-mannered.

Conversely, some of the more direct, time-saving Yankee methods are creeping into overseas trade as American technology demonstrates its effectiveness in action. Even the bizarre appraisal of us many foreigners had made from our films is changing for the better as films improve and travel increases.

Many large American concerns have offices abroad staffed by a mixture of Americans and nationals. They have learned how to trade under the benefits and handicaps of a local situation. The larger problem is for the middle-sized companies that have so far stayed out of the international market because of fear and inexperience. These companies can trade abroad on a profitable basis through the guidance of several agencies of information—namely, the government, banks with overseas branches, and specialists in foreign trade who know the questions and answers concerning marketing and advertising, credits, collections, currencies, tariffs, and the problems of packaging and shipping for export.

And international business is always a two-way street. We must buy if we want to sell. We must make adjustments and concessions for imports if we want to benefit by desirable purchases from abroad. We must recognize that unfavorable trade balances create internal difficulties and may limit the buying power of friendly nations.

There is evidence of steady progress as we report the amount of American money invested in foreign lands. These are dollars at work for us, not only for prosperity at home but for peace and economic stability throughout the world.

A.M.S.

OUR STAKE IN INTERNATIONAL TRADE

ALEXANDER O. STANLEY

Among the many tools and equipment used in foreign plants that bear the "Made in U.S.A." plate is the Todd apparatus here being used for the analytical distillation of vinegar in a Swedish research laboratory. This is merely one of thousands of examples that reflect the importance of American industry to the economic health of the entire free world.

WITH EACH SWEEP of the minute hand, thousands of "Made in U.S.A." products are moved across the counters into the hands of the world's consumers. As relays click, "Made in U.S.A." machine tools take up the daily job of forming, shaping, finishing the thousands of components that will come off assembly lines in Birmingham, Stuttgart, Lyon, Milano, Capetown, Sydney, Bombay, São Paulo, Monterrey, Toronto . . . in fact, wherever industry lives. An air hammer with a "Made in U.S.A." plate punches out coal, copper, tin, lead . . . the many materials in foreign mines we need to keep the wheels of our own industries turning. Laboratories in numerous plants abroad distill the chemicals for new substances and products in retorts marked "Made in U. S. A."

These are but a few illustrations of the more than 2,900 basic product categories (about 35,000 products altogether) that comprise the exports of the United States.

Participation cuts across the board into every American industry. The dollar line-up of U.S. exports shows that our products come from every field (see Table I, page 134). Total shipments in the first six months of this year rose to $8.3 billion, or $1.3 billion more than in the comparable period of 1955. At this rate, 1956 exports should easily reach $16 billion. Geographically, the flow of goods shows a consistent and traditional pattern. Our best markets abroad are the most industrialized (see Table II, page 134).

But exports are only part of the picture. During the past ten years, U.S. investments in branch and affiliated companies abroad have been breaking through to new high levels. Sales have followed suit. Familiar American brand names bearing stamps "Made in Germany," "Made in Holland," "Made in Venezuela," "Made in Pakistan," are appearing on shop shelves, at office desks, in plants, in the fields of foreign countries.

How many U.S. companies are engaged in manufacturing "on the ground" in foreign markets is not known, but educated guesses place the number at 2,500, representing an investment of $29 billion and total annual sales in excess of $30 billion.

A cross-section study of 120 blue- and red-chip Yankee enterprises with large foreign interests reveals the importance of foreign business as a percentage of total sales. Of this group, only one company reported foreign sales representing less than 10 per cent of its total volume. Forty-six, or almost one-half, placed their sales abroad at 10 to 20 per cent of their revenues. Twenty reported sales abroad amounting to 21 to 30 per cent of the whole. Thirty showed an impressive 31 to 40 per cent in overseas sales. Above this level, seven reported 41 to 50 per cent; for six, gross foreign income yielded more than 50 per cent of total revenue. Before World War II, 5 to 10 per cent in foreign sales was considered an impressive proportion of the total sales for any U.S. exporting manufacturer.

Direct Investments: $19 Billion

The U.S. Department of Commerce's Office of Business Economics, working with data supplied quarterly by some 400 U.S. companies, reports their direct investments abroad at $19.1 billion for the year 1955. A breakdown shows the bulk of the investment in manufacturing and extractive industries (figures in billion dollars):

Manufacturing facilities	6.322
Petroleum	5.792
Mining and smelting	2.195
Other industries	2.000
Public utilities	1.588
Trading organizations	1.289

The tremendous importance of both Latin America and Canada in our international economic structure is shown by the Office of Business Economics study. Of the $19.1 billion invested abroad by the 400 firms, over two-thirds is in the Western Hemisphere. Here are the highlights (figures in billion dollars):

20 Latin American republics	6.556
Canada	6.464
Western Europe	2.986
Asia and Oceania	1.890
Africa	0.774

But the arithmetic of international trade does not stop with the $46 billion yield in direct (export) and indirect (foreign branch) sales. The $12.2 billion spent for imports had an important effect upon our economy. The clue is in the observation by the U.S. Department of Commerce that "the import trade, *which is half or more in raw materials*, went up steadily last year with the

Judging from the labels alone, it would be hard to place this store in its proper locale. The American trademarks are recognized with equal ease in the United States and Havana.

The importance of the name behind the name becomes evident in international trade as one sees parts for the Necchi sewing machine turned out on Brown & Sharpe machines in Italy.

rise in U.S. manufacturing output and hit a peak . . . early in 1956."

To debate how high imports *should* be is like arguing about what is "good weather." It's all in the point of view. On a parched farm, one's viewpoint obviously differs from what it would be on a rain-soaked, slippery road. This much we do know: that numerous elements of our industrial economy would come to a grinding halt if certain imports were cut off. Following this line of thought, it is revealing to examine the composition of our leading import commodities (see Table III, page 134).

The pattern of imports is not dissimilar to that of exports. Almost 50 per cent of our exports are confined to the Western Hemisphere. And if Canada and the 20 Latin American republics are heavy buyers, they are also heavy suppliers, demonstrating concretely that "International trade is a two-way street." The line-up of principal import sources, based on the last fiscal year ending June 30, 1956 (figures in billion dollars):

20 Latin American republics	3.587
Canada	2.780
Western Europe	2.685
Far East	1.881
Africa	0.616
Western Asia	0.295

Is international trade profitable?

During the past 25 years the United States has with some consistency enjoyed a favorable balance of trade—that is, exports have exceeded imports. For the past five years this "profit" has remained at a $4 billion annual average, though the net for the fiscal period ending June 30, 1956 shrank to $3.3 billion. But there are many other plus factors. Net earnings on direct foreign investment contributed $3.1 billion in 1955; the 400 group accounted for $2.8 billion. Petroleum industry earnings headed the list with $1.239 billion; all manufacturing industries accounted for $821 million.

And imports also contribute substantially to the profit side of the picture. Significantly, 25 per cent or more than $3 billion of *all U. S. imports were produced by U.S. companies abroad*. The profit contribution of imports does not stop there. Domestic processing of imported raw materials (and these account for almost 50 per cent of all imports) develops profit factors all along the line, from processing to distribution.

Consider the coffee bean. Landing as a green immigrant, it is roasted and ground by U.S. distributors, packaged in "Made in U.S.A." cans, packed in "Made in U.S.A." cartons, shipped to warehouses on U.S. freight cars, and finally transported in U.S. trucks to the retail store or restaurant. By this time the 60 cents per pound (Brazilian) landed cost has risen to over a dollar, and almost one-third of the retail price becomes a *U.S. trade statistic*—costs of processing and distribution, and so on. This illustration applies to thousands of the products that reach our shores.

The profit picture has another important element: the fast-expanding income developed through providing international services and travel. Expenditures in this service area, are estimated to reach $3.4 billion in 1956.

This statistic will be a key one to watch, for it may register the most dramatic increase in the immediate future, especially in the field of travel. Whether for pleasure or profit, or both, more and more Americans are taking off in ships or planes to all points of the compass. In 1955 our State Department issued passports to over 320,000 Americans—expects to issue a million during the next twelve months. (Not tallied are jaunts to Canada, Cuba, Mexico, and

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TABLE I Analysis of U.S. Exports by Product Groups for Fiscal Year Ending June 30, 1956 (in million dollars)

Industrial machinery	1905.9
Auto parts and accessories	1319.7
Chemicals, related products	1170.8
Grains and preparations	1096.8
Iron and steel mill products	968.0
Food products, non-grain	755.5
Electrical apparatus	695.1
Fats, oils, and oilseeds	643.3
Textile manufactures	626.4
Coal and related products	613.2
Metal manufactures	447.5
Tobacco and manufactures	443.9
Petroleum and products	443.8
Cotton, unmanufactured	381.9
Tractors	293.2
Copper, copper-base alloys	228.3
Food for private relief	179.5
Agricultural implements	123.4
Miscellaneous products	2422.4

TABLE II Analysis of U.S. Exports by Homogeneous Areas for Fiscal Year Ending June 30, 1956 (in million dollars)

Western Europe	4500.7
Canada	3650.8
20 Latin American Republics	3418.0
Far East	2133.6
Africa	650.0
Western Asia	348.1

(For the country-by-country breakdown, see page 136.)

TABLE III Analysis of Leading Imports for Fiscal Year Ending June 30, 1956 (in billion dollars)

AGRICULTURAL	4.095
Coffee	1.451
Cane sugar	.441
Cocoa and cocoabeans	.167
Other foodstuffs	.787
Crude rubber	.455
Wool, unmanufactured	.269
Other agricultural products	.525
NON-AGRICULTURAL	7.991
Copper	.529
Nickel	.193
Tin	.183
Other nonferrous metals and ferro-alloys	.760
Crude petroleum	.742
Petroleum products	.402
Newsprint	.651
Other paper and materials	.394
Textile manufactures	.631
Machinery	.320
Sawmill products	.320
Chemicals, related products	.265
Automobiles, aircraft, other vehicles and parts	.269
Diamonds	.234
Fish and shellfish	.227
Iron ore	.269
Iron and steel mill products	.178
Other non-agricultural products	1.544

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Billions of coffee cherries yield this major import that supports a domestic industry.

other nearby countries, which would swell the travel statistic considerably if included.) Travel expenditures, in the main, are an invisible import, since the preponderance of dollars is spent abroad. The concomitant benefits are twofold: more dollar exchange to amplify the international purchasing power of foreign countries; better and relatively cheaper transportation facilities for the American and foreign business man, especially in off-season periods.

Increased frequency in sailings and flight schedules accelerates the year-round movement of freight and mail. Today over 160 million cargo ton-miles are traversed annually by some 45 airlines (domestic and foreign) to all points of the globe. This is almost equivalent to one-half the cargo miles flown within the Continental United States. And 155 steamship lines, both U.S. and foreign-owned, called last year at 388 foreign ports to deliver and pick up a thumping 226.2 million long tons of U.S. cargo. This 1955 tonnage showed a 28 per cent gain over the previous year.

Behind this busy scene of moving goods to market is a network of service organizations. The documentation of each international shipment, whether by sea, rail, or air, involves the international freight forwarders (some 600 in New York alone are accredited by the Federal Maritime Board) and the bankers. Hardly a bank of any consequence today is without a foreign department. Wires, cables, radio, and mail carry important decisions that meet deadlines 24 hours a day. The remote trading posts of the world are joined by live communication with every area of our economic net-work.

Continued on page 138

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THE INTERNATIONAL TRADE BALANCE SHEET

January - June 1956

Some definitions are needed to apply the accompanying data—based on Department of Commerce statistics—to short- and long-range market research programs:

GRAND TOTAL: This does not include "special category" exports such as those which, on security grounds, are not reported by country or by all areas of destination.

NET BALANCE OF TRADE: This indicates the excess of exports over imports. The "plus" sign is not necessarily a favorable factor. While superficially it seems desirable for us to export more than we import, the *degree* of the "favorable" balance is important to consider.

Countries in this bracket may encounter hardships in obtaining enough dollar exchange to pay their bills promptly. Of course, additional funds can be acquired from tourist dollars, from U.S. dividends, direct dollar remittances, conversion into dollars of other surplus foreign currencies, and other ancillary channels of revenue. And loans, whether from the United States or other countries, can also affect the immediate exchange position. But in most instances these exterior sources are subordinate to the dollars created by direct trade. *This item, therefore, is an important one to watch on a continuous basis.*

EXPORTS: In studying the composition of our six months' exports in 1956, one statistic stands out boldly: Slightly over one-half of all exports are in finished manufactures, $4.694 billion, up 16.8 per cent from 1955. Semi-manufactures are in second position, $1.327 billion, up 19.5 per cent. The gains all along the line are impressive.

IMPORTS: There are some direct equivalents to key exports evident when analyzing the import structure for the first six months of 1956 against the comparable 1955 period. Finished manufactures and semi-manufactures account for almost one-half of all imports. At $1.552 billion, finished manufactures are up 26.8 per cent; semi-manufactures, totalling $1.447 billion, up 9.6 per cent. Crude materials, actually the Number 2 import, show a 13.5 per cent gain to $1.551 billion.

—A. O. S.

AREA	COUNTRY	TO: Total U.S. Exports Jan.-June 1956 (In Millions of Dollars)	TO: % Gain or Loss Exports*	FROM: Total U.S. Imports Jan.-June 1956 (In Millions of Dollars)	FROM: % Gain or Loss Imports*	BALANCE: Net Balance of Trade Jan.-June 1956 (In Millions of Dollars)	BALANCE: % Gain or Loss Net Balance of Trade*
	GRAND TOTAL	7,850.5	+ 19.7	6,254.9	+ 15.1	+1,595.6	+ 41.8
1	NORTH & LATIN AMERICA	3,814.7	+ 22.6	3,415.9	+ 13.1	+ 398.8	+ 341.1
2	WESTERN EUROPE	2,389.7	+ 17.0	1,436.1	+ 26.7	+ 953.6	+ 1.8
3	ASIA & OCEANIA	1,301.9	+ 16.6	1,099.8	+ 12.9	+ 202.1	+ 42.5
4	AFRICA	344.2	+ 19.0	303.1	— .6	+ 41.1	+ 356.2
	By specific countries:						
1	Canada	1,993.6	+ 28.4	1,385.3	+ 10.1	+ 608.3	+ 106.5
1	Mexico	411.3	+ 25.4	224.3	— 1.8	+ 187.0	+ 87.8
2	United Kingdom	399.1	— 5.0	348.9	+ 21.5	+ 50.2	— 62.3
3	Japan	373.8	+ 20.0	262.8	+ 39.9	+ 111.0	— 10.1
2	Western Germany	351.1	+ 21.3	228.9	+ 42.0	+ 122.2	— 4.3
1	Venezuela	310.9	+ 18.7	333.1	+ 15.5	— 22.2	— 15.6
2	Netherlands	263.2	+ 14.0	80.9	+ 19.9	+ 182.3	+ 11.6
2	France	260.7	+ 49.5	115.4	+ 23.0	+ 145.3	+ 80.3
1	Cuba	249.1	+ 10.1	261.3	+ 18.2	— 12.2	— 334.6
2	Italy	238.6	+ 31.7	95.3	+ 10.4	+ 143.3	+ 51.0
2	Belgium and Luxembourg	200.9	+ 27.7	151.6	+ 31.7	+ 49.3	+ 16.9
1	Colombia	181.1	+ 10.0	221.6	+ 16.8	— 40.5	+ 60.8
3	Philippine Republic	156.9	— 13.1	143.8	+ 7.6	+ 13.1	— 72.1
4	Union of South Africa	145.8	+ .3	54.3	+ 3.2	+ 91.5	— 1.3
1	Brazil	137.1	+ 13.2	370.1	+ 43.1	— 233.0	+ 69.5
2	Spain	123.7	+ 64.7	40.8	+ 46.8	+ 82.9	+ 75.3
3	India	116.2	+ 22.3	106.7	— 11.3	+ 9.5	— 62.5
2	Switzerland	100.5	+ 23.5	78.1	+ 21.3	+ 22.4	+ 31.7
1	Argentina	94.0	+ 31.1	79.3	+ 23.1	+ 14.7	+ 101.3
3	Australia	80.7	— 18.2	67.7	— .9	+ 13.0	— 87.2
2	Sweden	80.5	— 2.5	50.1	+ 24.3	+ 30.4	— 28.1
2	Yugoslavia	78.3	— 14.5	17.8	+ 44.7	+ 60.5	— 23.7
4	Egypt	74.2	+ 76.3	9.5	— 34.5	+ 64.7	+ 134.4
3	Republic of Korea	74.2	+ 3.3	4.6	+155.6	+ 69.6	— .6
1	Peru	73.5	+ 43.3	67.5	+ 43.6	+ 6.0	+ 39.6
3	Pakistan	64.1	+170.5	22.5	+ 43.3	+ 41.6	+ 420.0
2	Turkey	59.6	+ 5.3	48.5	+ 94.0	+ 11.1	— 64.9
1	Chile	58.3	+ 35.6	118.1	+ 19.9	— 59.8	+ 7.8
3	Taiwan	56.6	— 4.6	3.3	+ 13.8	+ 53.3	— 5.5
3	Republic of Indonesia	52.0	+ 51.2	102.3	+ 1.4	— 50.3	— 24.4
3	Israel	50.2	— .9	9.7	+ 16.9	+ 40.5	— 1.5
2	Greece	46.3	+ 14.9	13.7	+ 14.2	+ 32.6	+ 15.2
2	Norway	43.9	+ 7.1	40.1	+ 27.3	+ 3.8	— 60.0
3	Saudi Arabia	42.8	+ 4.1	41.0	+ 46.9	+ 1.8	— 86.4
2	Austria	40.8	+ 61.3	21.7	+ 49.7	+ 19.1	+ 76.9
1	Guatemala	39.5	+ 47.4	41.8	— 2.3	— 2.3	— 85.7
1	Republic of Panama	35.4	— 14.8	11.2	+ 10.9	+ 24.2	— 22.9
3	Hong Kong	35.3	+ 29.3	9.3	+ 22.4	+ 26.0	+ 31.9
1	Dominican Republic	34.1	+ 28.7	34.2	+ 4.9	— .1	+ 98.1
3	Iran	33.5	+ 10.6	19.3	+ 40.9	+ 14.2	— 14.5
1	Netherlands Antilles	33.3	+ 7.1	124.9	+ 8.8	— 91.6	+ 9.4
4	Belgian Congo	32.6	+ 22.1	51.1	+ 5.4	— 18.5	— 15.1
2	Denmark	31.6	+ 14.5	30.5	+ 5.2	+ 1.1	+ 227.3
3	Vietnam, Laos and Cambodia	31.1	+182.7	12.0	— 32.9	+ 19.1	+ 382.6
1	Bolivia	25.8	+ 34.4	20.7	+ 4.5	+ 5.1	+ 750.0
3	Thailand (Siam)	25.1	+ .8	53.7	+ 5.1	— 28.6	+ 9.2
3	British Malaya	24.9	+ 41.5	116.5	+ 2.9	— 91.6	— 4.2
1	El Salvador	24.5	+ 2.5	31.5	— 38.4	— 7.0	— 74.3
1	Ecuador	23.7	— .8	20.0	— 14.5	+ 3.7	+ 640.0
3	Lebanon	21.8	— 6.0	2.3	+ 9.5	+ 19.5	— 7.6
3	New Zealand	21.5	— 13.7	42.5	+ 75.6	— 21.0	—3,000.0
3	Iraq	21.4	+ 20.9	18.4	+ 82.8	+ 3.0	— 60.6
1	Costa Rica	20.8	— 3.7	8.8	— 49.1	+ 12.0	+ 179.1
4	French Morocco	19.7	+ 11.3	5.4	— 11.5	+ 14.3	+ 23.3
2	Portugal	19.5	+ 20.4	12.9	— 5.1	+ 6.6	+ 153.8
1	Honduras	19.1	+ 2.7	16.6	+ 10.7	+ 2.5	+ 30.6
2	Finland	18.4	+ 28.7	21.1	No change	— 2.7	— 60.3
1	Haiti	17.5	+ 29.6	9.2	+ 2.2	+ 8.3	+ 84.4
1	Nicaragua	17.0	— 11.4	13.9	— 22.3	+ 3.1	+ 121.4
3	Kuwait	16.4	+110.3	13.8	— 6.0	+ 27.4	— 29.4
2	Ireland (Eire)	15.0	— 13.8	2.9	+ 20.8	+ 12.1	— 19.3
4	Liberia	14.9	+ 93.5	21.8	+ 37.1	— 6.9	— 15.9
4	French West Africa	14.6	+ 18.7	23.4	— 32.8	— 8.8	— 60.9
1	Uruguay	12.9	— 32.2	19.0	+237.5	— 6.1	— 295.0
4	Algeria	10.6	+ 26.2	1.6	— 18.4	+ 9.0	+ 69.8
4	British West Africa	9.9	+ 8.8	65.6	+ 21.3	— 55.7	+ 23.8
4	Federation of Rhodesia and Nyasaland	7.9	+ 36.2	20.9	No change	— 13.0	— 13.9
4	Angola	7.4	+ 17.5	16.7	+ 25.6	— 9.3	+ 32.9
2	Soviet Bloc	6.8	+ 36.0	33.2	+ 39.5	— 26.4	+ 10.4
2	Iceland	6.1	— 24.7	3.6	No change	+ 2.5	— 14.4
2	Free Territory of Trieste	5.1	— 17.7	.1	No change	+ 5.0	— 18.0
4	British East Africa	4.2	— 22.2	19.9	— 14.6	— 15.7	— 12.3
3	Ceylon	3.1	— 5.6	17.6	— 10.2	— 14.2	— 11.3
4	Ethopia	2.4	+ 14.3	12.9	— 28.7	— 10.5	— 34.1
1	Paraguay	2.2	— 12.0	3.5	+ 52.2	— 1.3	— 750.0

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0016 Need chemical solvents to remove concrete and cement crusts from building machines, basic material to form air pores in concrete, mortar, etc., preserving materials for rubber. Samples required to test the material before placing orders. LUX OEL GESELLSCHAFT m. b. H., 47 Muehlenstrasse, Homberg Ndrh

0017 REQUIRE APPROXIMATELY 50 TONS MOTOR AND H. D. OILS IN DRUMS CONTAINING 200 LITERS, OR GARAGE DRUMS CONTAINING 55 LITERS, ACCORDING TO MIL L 2104A. CERTIFICATE MIL L 2104A MUST BE FURNISHED. ALSO INTERESTED IN ACTING AS SELLING AGENTS FOR U. S. FIRMS ON COMMISSION BASIS. WM. HILGERS, CHEMISCHE FABRIK, 128 KAPPELERSTRASSE, DUESSELDORF-REISHOLZ

INDIA

0018 Large quantities of the following spares for agricultural tractors and related equipment wanted: Main and connecting rod bearings. ESCORTS (AGENTS) PRIVATE, LTD., AGRICULTURE DIVISION, Rahim Manzil, Roshanara Road Delhi 6

NETHERLANDS

0019 Purchase direct and or represent U. S. chemical manufacturers for sulfated sodium, Cetyloleyl alcohols, sulfonated fatty acid amides, and alkyl-aryl sulfonates in powder or pastes. ANOREX, 173 Waalsdorperweg, The Hague

NORWAY

0020 Purchase direct and or obtain agency for heavy mobile cranes, dock cranes, berth and fitting-out cranes for shipyards, builders' cranes and hoists, and mechanical handling equipment. E. D. NUTSEN & CO. 8 Kirkegaten, Oslo

PARAGUAY

0021 All kinds of automobiles and trucks, parts, and equipment desired, including motors, tires, and lubricating grease and oils. REPUESTOMOVIL S. R. L., Mexico 304, Asuncion

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0022 Need four sets of single-color rotary offset printing machines, size 15x21½", a. c. 110-volt, single-phase, or a. c. 175-volt, 3-phase, complete with aluminum plate or paper plate. Catalog and price list requested. BOON SONG PHANICH & CO., LTD., 289-291 New Road, Bangkok

0023 Want television receivers, radio receivers of multiple wave lengths and radio accessories, radio maintenance and service instruments, and high-fidelity phonograph equipment. SENG GUAN HONG, 854-862 Talad Noi, New Road, Bangkok

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0024 WANT LIGHTING FIXTURES, SWITCHES, WIRING CORD, AND ALLIED LINES FOR INDUSTRIAL AND DOMESTIC LIGHTING. ALSO WISH TO ACT AS DISTRIBUTOR OF ELECTRICAL MATERIALS IN GENERAL. CASA PINEDA, S. A., NO. 71 ESTE 4, CARACAS

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0027 Large quantities of clothespins 2" long, in various colors, made of strong polystyrene and with electroplated steel spring. Sample available. TORSTENSEN & CHRISTENSEN, 96, Vesterbrogade, Copenhagen V.

0028 High-quality Danish handicraft of various articles of applied art, including woodware of teak, stoneware, hornware, and silver jewelry. MRS. KIRSTEN HILNER SCHEPPER, 41 Kongsdalvej, Copenhagen

0029 DIRECT OR THROUGH AGENTS IN NEW YORK, CHICAGO, AND SAN FRANCISCO AREAS, HIGH-QUALITY LAMINATED VINYL PRODUCTS, INCLUDING MOUTH-INFLATED CAMPING AIR MATTRESSES, BATH RINGS, AND CUSHIONS. SAMPLE OF BATH RING AND CUSHION AVAILABLE. UNIVERSAL PLASTIC, LTD., 6 LEMCKESVEJ, HELLERUP

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But this end-result has to have a beginning: the search for markets. Spearheaded by a handful of advertising agencies and market research organizations specializing in import and export development, facilities for

Transportation services add velocity to the international trade movement.

both research and advertising have expanded rapidly during the past decade. Today every first-line ad agency is staffed with specialists in the international field. More and more agencies are opening up foreign branches as the task increases and the sales opportunities enlarge.

International advertising budgets are growing steadily. A 1953 survey of a scientific sampling of 3,450 U. S. companies conducted by the International Advertising Association of New York revealed that $280 million was spent in developing direct exports and sales by overseas branches and affiliates. By 1954 the figure had climbed to more than $300 million; 1955 guesstimates range between $325 million and $350 million. In world total, advertising expenditures topped $3 billion, according to a survey last year by the same Association covering 29 foreign countries. (In comparison, U.S. domestic advertising expenditures are estimated at $9 billion for 1956.)

As more dollars have been channeled into foreign markets, advertising media abroad have steadily improved in quality and coverage. The international advertiser today has latitude in reaching the foreign buying public. Other ancillary services, some private, some governmental, both here and abroad, have extended their scope to meet the heavily increased volume of questions involving translations, statistics, credit reports. So diversified is the list of inquiries, both by subject and country, that a complete list could not be catalogued here.

We have outlined above the scope of our international trade and our substantial stake in it. It is an integral part of the total productivity of our country, and a genuine support of our whole economic structure. Selling beyond our borders influences our daily lives, our employment, and our prestige as a nation. What was once a matter of choice now becomes necessity. No U. S. enterprise can ignore the potentials of the 75 key markets of the world in its plans for future expansion.

International trade is a give-and-take affair. New products, processes, techniques are emerging abroad—especially from the fast-recovering European industrial economy. Some of these will eventually turn up in our own marketplaces, others throughout the world. While we still occupy the Number 1 spot in world commerce, challenges are mounting.

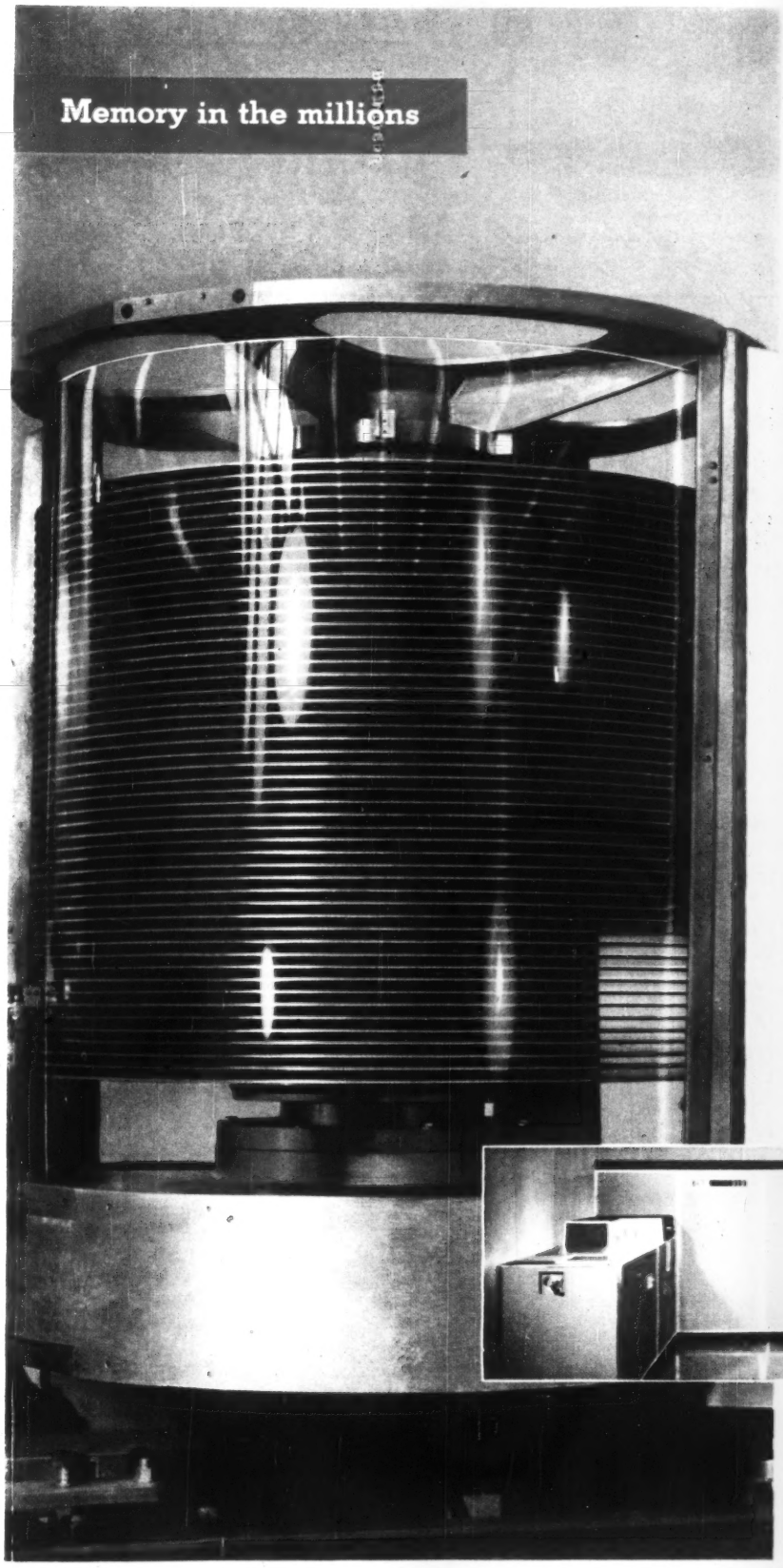
Investments by foreign companies in nations other than the United States are reported with increasing frequency in the press. Ignoring the Soviet faction for the moment (this is a subject for a separate report), we hear increasingly of new arrangements for foreign production by Italian, German, Netherlands, Swiss, and French companies. Business men in these countries are alert and ingenious, and often avoid the direct investment of cash. In some countries equipment and materials are being supplied to small manufacturers abroad in return for capital stock rather than cash or credit payments. The advantages of this pattern in money-poor markets are obvious. The result may be a tough fight between entrenched competition and U.S. companies that go after foreign markets later.

The overseas manufacturer is in large degree an exporter. Often possessing a limited local field of sales operation, the foreign industrialist has been conditioned to look to foreign fields for greater sales potentials. The drive for the customer's dollar, peso, franc, deutschemark will intensify as the factories of the world step up their tempo. To ignore the implications of this development is to court trouble; to keep abreast of it through adequate commercial intelligence is vital in the strategy of world trade.

In the case of the American company already engaged in overseas trade, the devices to be used for commercial intelligence depend upon the extent of its activities abroad. The concern with foreign branches or affiliates, or licensing agreements, already has the necessary antennae for keeping tabs on competition. The firm that sells through overseas distributors or agents must use its contacts to obtain current and pertinent news on trends in competitive markets.

For the company not engaged directly in either exporting or importing, it may be desirable to give one executive the specific task of keeping informed on foreign events and trends affecting its area of operation. As to information sources: Many trade associations perform valuable news-gathering services, often obtaining transcripts of foreign conventions, etc., and releasing them to their memberships in digest form. Both foreign and U.S. trade publications are another important source of pertinent facts. News items, emanating from either government or trade sources, provide good tip-offs. Finally, attendance by foreign business men at U.S. conventions, which is becoming increasingly frequent, affords a first-hand opportunity to exchange information not only in competition but in cooperation.

Venezuela got its share of the more than 100 million long tons shipped out last year.



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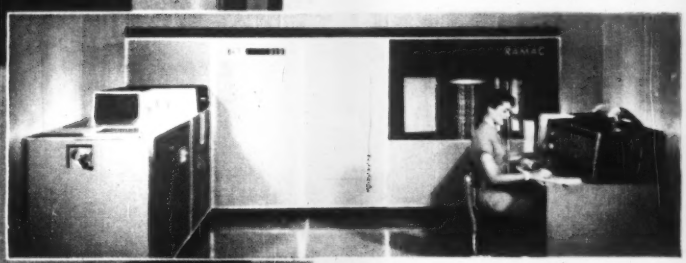

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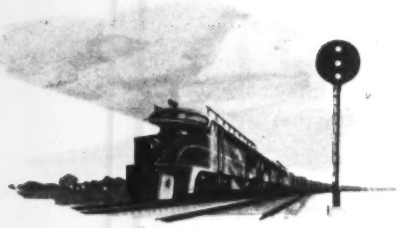

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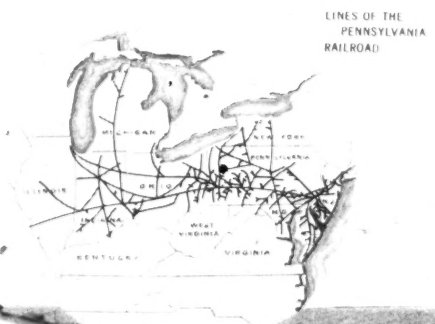

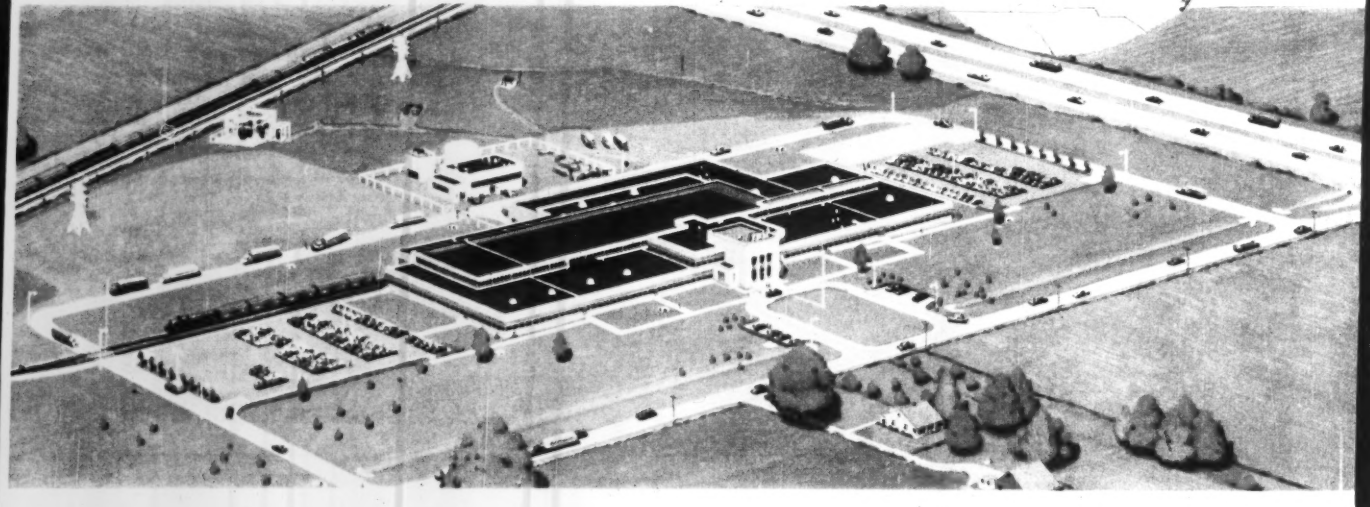

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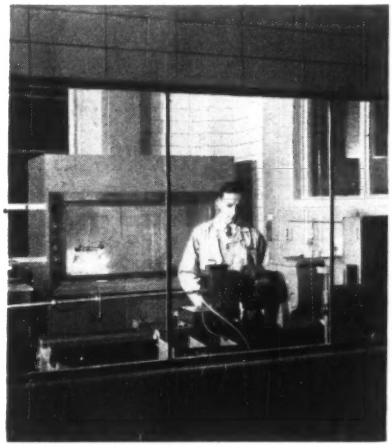
ARE YOU EQUIPPED FOR PROGRESS?

Yesterday's laboratory was considered well equipped if it had a mere handful of instruments like these. But, in designing products to meet today's high standards, engineers use many new research techniques and complex devices like those pictured below.

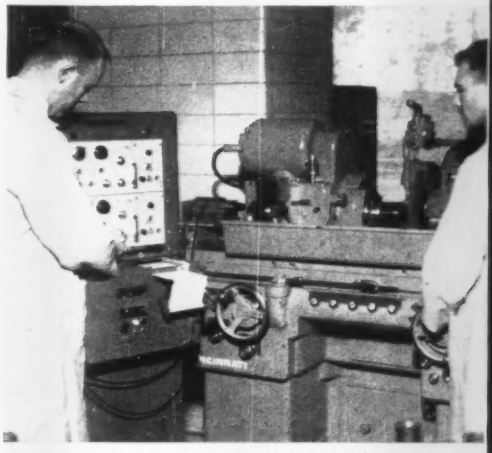
TWENTY years ago, many companies in the metalworking field would have considered the small collection of instruments pictured above entirely adequate for research and development. Even ten years ago, few were thinking in terms of radioactive isotopes, electric strain gages, and electronic computers. Yet these are only a few of the research tools now regularly used by companies which are—and want to continue to be—leaders in their fields. A good example is Cincinnati Milling Machine Co., which uses all this equipment and more to study metal cutting processes and improve tool design.

Good work can still be done without instruments like these. Bent pins still catch a lot of fish. But, when equipment is available that offers more information, faster, and with greater accuracy, it's shortsighted to ignore it. —A. R. G.



Radioisotopes, electronics, and ultrasonics are now used at Cincinnati Milling to help design efficient machine tools.

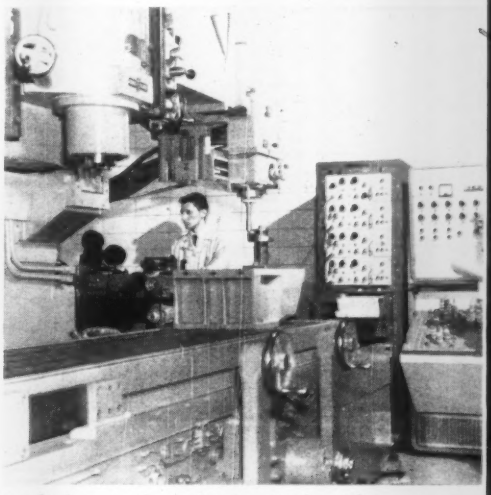
High-speed motion pictures, taken through microscope, show how tool meets work, and give detailed views of chip formation.



Strain gage dynamometer, connected to recorder, measures grinding force. Instrument is also used to study chip formation.

Spectrometer helps Cincinnati metallurgist trace diffusion of metals at contact points. X-ray diffraction equipment is also used.

Electron microscope permits detailed examination of metal structure, is valuable aid in determining the effects of alloying.



Applied research at Cincinnati also takes advantage of new testing devices. Here, oscillograph is connected to machine tool.

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COMPENSATION: LARSON . . . ***continued from page 45***

partment, after consulting with a number of state administrators, set out to compile what we called a model workmen's compensation act. This was in line with the traditional Labor Department function of giving assistance to the states on legislation. We certainly did not intend the word "model" to be given its colloquial meaning of perfect. As we repeatedly explained at the time, we were trying to put together a sort of checklist of successful state provisions, so that anyone could look at his own statute and see whether, so to speak, the parking garage had been left out.

However, since some critics have been unduly bothered by the word "model," believing it carries the implications that a few people think they know best what the one and only perfect compensation act for every state should be, I should like to suggest that we change the name from "model act" to "comprehensive checklist." That is all this draft is intended to be.

Already the draft has begun to perform the function of the architect's model. A number of states whose compensation structures date from the days of kerosene lamps and outdoor plumbing are beginning to discover that there are such things as electric lighting and indoor bathrooms, and that these things are regarded as commonplace in many other states.

One would be amazed at the number of letters we receive in which we are told that to pay benefits to the totally permanently disabled for the duration of the disability is an unheard-of and revolutionary innovation, and that to pay the entire cost of medical care in compensation cases would most certainly bankrupt the carriers, and that to eliminate the "by accident" requirement and provide complete occupational disease coverage would be an unthinkable novelty that would turn the whole system into a welfare scheme. Routine provisions that have been successfully working for decades in many states are viewed in others as the wildest inventions of impractical dreamers in Washington.

Perhaps we should not be too much surprised at the out-of-dateness of most compensation acts, since most of them are over 40 years old, and all but eight were passed before 1920. Even then they were heavily based on the British Act of 1897. In effect, therefore, we are dealing with a category of legislation whose basic pattern and design is 60 years old—a product of the gay nineties.

I should like to give you a list of fourteen points showing how the world has changed in the meantime in ways that urgently require corresponding changes in many compensation acts.

At the same time it should be stressed that tremendous and imaginative progress has been made in many acts; actually, it is this very fact that occasioned the draft in the first place, since it seemed the most convenient way of calling the most workable provisions of the pioneering states to the attention of all the other states.

Note, also, that this discussion is not cast in terms of being liberal or conservative; rather, it is concerned with completeness, up-to-dateness, and workability under modern conditions. Most of the suggestions in this list would, in fact, result in clear savings to employers and carriers, both in money and in reduction of litigation, confusion, and common law and tax liability.

Here are the fourteen points:

1. *The advent of social insurance.* When workmen's compensation was introduced in this country, and for a quarter century thereafter, it was the only form of social insurance we had. It had no need to bear comparison with any other system. It probably looked rather modern and shiny, standing there all by itself as the very latest thing in social legislation.

But, since about 1935, other social insurances have come along, such as social security and unemployment insurance. And so, when we look into a question such as universality of coverage, and find many compensation acts still excluding the same old list—small firms, agriculture, and all the rest—we can no longer be told that universal coverage is impractical, because we have got virtually universal coverage in the social security system.

Another effect of this development is the necessity for coordinating workmen's compensation with such systems as social security and unemployment compensation. Since work-

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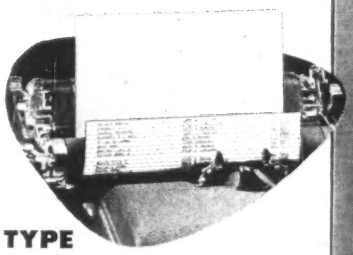

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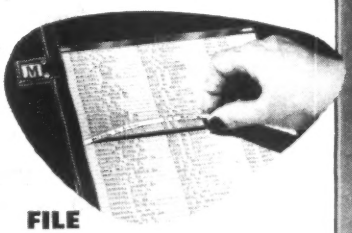

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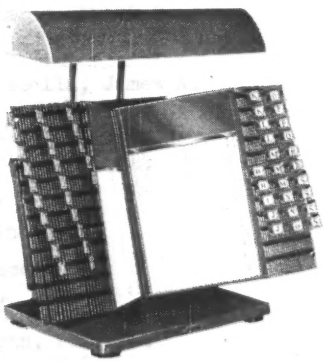

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men's compensation was the first in the field, it has generally no coordinating mechanisms at all. Some courts have tried to meet the most pressing problems of avoidance of duplication, but the legislatures have been almost entirely inactive on this point, although some real savings could be effected here without hardship to the claimant.

2. *Public assistance.* We have entered an era in which it is taken for granted in most places that cases of destitution will, if necessary, ultimately be cared for under a public assistance scheme. In such categories as total permanent disability, old age, dependent children, and blindness, a heavy part of the financing of this assistance is federal, with the Federal Government paying $20 of the first $25, and sharing payments above that.

In other words, the question nowadays is not *whether* these people will be provided for under a public system, but *how.* Will it be as of right, with dignity, or as charity, with humiliation?

The Need for Assistance

I have made preliminary inquiry into the number of people on federally supported assistance who have employment-connected disabilities, and I can tell you that there are thousands of people today drawing tax-supported public assistance who would not need it if workmen's compensation in this country were doing its job!

It stands to reason that, as long as many states do not pay benefits for the duration of a total disability or blindness, and as long as millions of workers are still not covered and are left completely without income if disabled, and as long as benefit levels and medical limitations are such that some afflicted families cannot possibly survive under them, federally aided assistance is going to continue to pick up the check for doing a job that belongs to workmen's compensation.

And the very people who are constantly telling us to remember that workmen's compensation is a state job are often the same people who, by opposing attempts to encourage a complete state compensation system, are in effect passing the buck to Washington and federalizing the ultimate responsibility for serious compensation cases.

3. *Change in common law recoveries.* When workmen's compensation was instituted, it represented a considerable gain for injured workmen, because damage recoveries under common law were difficult and pathetically small when successful. In New York City in 1908, for example, there were 74 cases of industrial death whose disposition was known. In 43 per cent there was no recovery; in 41 per cent it was under $500; and in 16 per cent it was between $500 and $5000. In recent years there have been cases in which a single plaintiff in a total permanent case has recovered an amount five times as great as the total amount received by all the plaintiffs in all the death cases in New York in 1908.

Not only are verdicts many times as large, but the probability of recovery has been greatly increased, because of both statutory and judicial developments.

The Specter of Damage Suits

Those of us who have studied developments in workmen's compensation abroad are very anxious that one danger should not be overlooked by those who want to preserve our kind of state workmen's compensation. If workmen's compensation continues to fall behind the times, there is a very real possibility of the eventual development of a movement to go back to damage suits, or, as in England, to add damage suits to compensation recoveries. If this sort of thing happens, employers will really have some costs to worry about, and the present cost of workmen's compensation, which now averages only about 1 per cent of payroll for the country as a whole, will look small indeed. In present-day England, compensation costs are the least of the employer's worries; what keeps him awake nights is the specter of unpredictable damage suits on top of compensation liability. Does anyone really suppose that working people in this country are going to go on indefinitely putting up with acts under which they are limited to $12,000 or $15,000 in potential negligence cases for the very same injury that, in a damage suit, gives the railroad worker a quarter of a million dollars?

4. *Rehabilitation.* In the years since the original acts were passed, the science of rehabilitation has grown up, greatly accelerated by the experience gained in wartime.

In the old days, either you were crippled or you were not crippled. If you were crippled, that was too bad, and you were shunted onto one of life's sidings, given appropriate sympathy, but not much else. Now we have a vast store of knowledge and techniques for medical and vocational restoration of the injured workman, but only a handful of states have adjusted either their substantive provisions or their administrative mechanisms to take advantage of this opportunity.

New Hazards—New Disabilities

5. *Atomic radiation and other new hazards.* Most acts are completely unprepared for the atomic age. States with specific lists of occupational diseases are, in most instances, not only not up to the atomic age—they haven't even caught up with diseases that have been known for 20 years or more.

If the same time lag attends the atomic age, we can look forward to decade after decade in which dreadful poisonings and disabilities of clearly occupational character will continue to go without any compensation for no better reason than that legislatures just haven't got around to naming the particular condition on their lists.

6. *Mental and nervous injury.* Back in the gay nineties, not much was known about mental and nervous injury. The general idea then was that you were either crazy or not crazy. Although we still have much to learn, it is fair to say that science has now reached the point where the connection between these forms of injury and the employment can be tested objectively, with as much reliability as many other kinds of disability. The continued failure in many jurisdictions, then, to compensate for this particularly tragic kind of disability is growing progressively more inexcusable.

7. *Third-party suits.* In the early days few industrial injuries involved anyone other than the employer and employees. Now we have entered a period in which third-party involvement is increasingly common. One reason is the prevalence of highway accidents, in which there will almost always be a third-party problem. In addition, we have multi-employer construction projects; we have employees of outside employers constantly running in and out of a particular employer's plant, for deliveries, for repairs, for installations, and so on. All this means that a fair and workable third-party section is extremely important in any compensation act, and that a well-thought-out provision can save a lot of time, money, and trouble for everybody involved.

Compounded Confusion

8. *Conflict of Laws.* Similarly, questions of jurisdiction have multiplied in importance because of the tremendous increase in interstate activity. Interstate transportation systems, such as airlines and bus lines, have increased the problem. Construction companies operate in many states. Chain stores send their personnel all over the country, as do other large multi-state enterprises of all kinds. Yet our conflict of laws sections are an absolute crazyhouse of confusion. Perhaps they didn't cause too much trouble in the days of the general store and the horse-drawn surrey, but today they defeat legitimate claims, permit successive recoveries for the same injury, and cause endless uncertainty and litigation, which no one wants.

9. *Overseas problems.* Problems involving both dependents overseas and travel overseas have increased markedly with little or no recognition in most compensation acts. As to benefit claims of alien enemy dependents in wartime, for example, not a single state was really prepared for the situation when the last war broke out. The result was that a lot of money was paid to the Alien Property Custodian that, under a properly drafted provision, could have been kept within the compensation system of the state, with an ulti-

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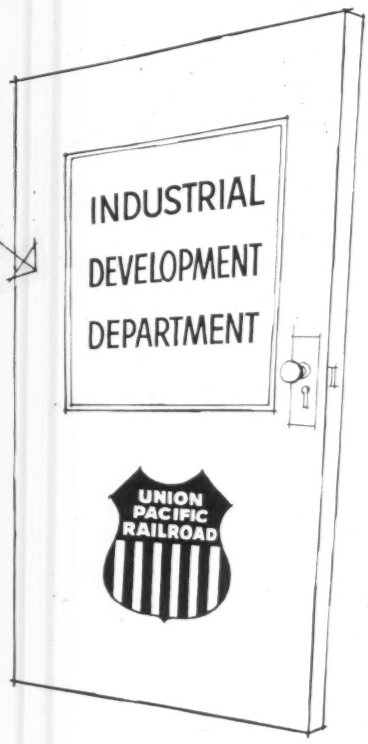
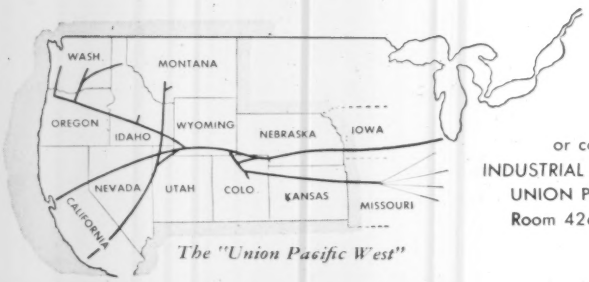


can obtain for you factual information on western industrial sites



The "Union Pacific West"

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UNION PACIFIC RAILROAD
Room 426, Omaha 2, Nebraska

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mate saving to the employers and carriers of the entire amount.

10. *New employments.* All kinds of new employments have grown up that are appropriate for coverage. An obvious example is civil defense workers. Another is workers on industrialized farms. Then there are many new categories of what one might call quasi-independent contractors, which are increasingly treated as employment for such systems as social security, but which still miss workmen's compensation coverage because of technicalities in old employee concepts.

Obstacle to Progress

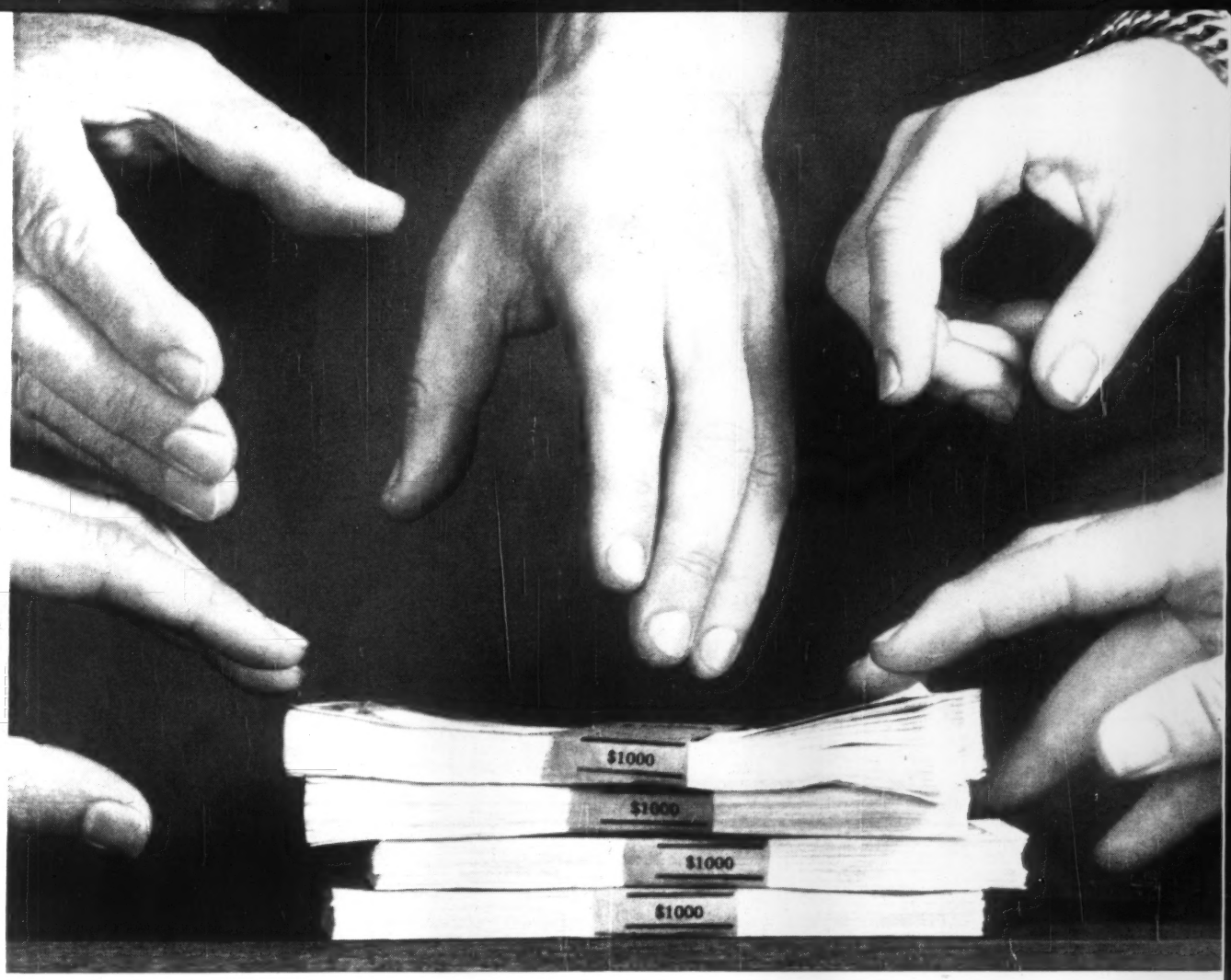
11. *Second-injury funds.* Among the many areas in which the expectations of today's people have gone far beyond those of 40 years ago is the employment of the physically handicapped. This is one of the most widely accepted movements among employers. And yet it cannot get to first base in the absence of a good second-injury provision. There are many such provisions in effect, but they need constant reexamination and modernization in view of experience.

Right now the number one question is whether the second-injury technique and principle can be extended beyond the obvious loss-of-member cases to more subtle impairments such as heart disease. The problem is a tough one, but unless we make an honest effort to solve it we may be building up to a second-injury problem that will make the original problem look pale by comparison.

One has only to imagine a situation in which all jurisdictions are making liberal heart awards, and in which all employers then are impelled to give pre-employment heart examinations, to get some idea of what the plight of the man with any kind of heart history is going to be.

12. *Industrial safety.* The science of industrial safety has come a long distance since the early days of compensation. As a result, many states are not well organized to key in the compensation with the safety function, and the result is detriment to both functions. And, of course, modern penalties for safety violations should be a regular feature of compensation acts, but appear in only a handful.

continued on page 148



A close look at tight money

Straight talk about banks and small business

Much of what is being written and said today about small business not getting its share of bank credit fails to square with the record.

Banks are doing their level best to meet the credit needs of small business. There is ample evidence of this.

At Chase Manhattan, for example, commercial and instalment loans in amounts ranging from $1,000 to $100,000 made to small business increased 31% in number during the past year.

Current reports from many sections of the country demonstrate that a good percentage of the nation's banks show trends similar to Chase Manhattan's.

This is not to imply that anybody who wants a loan today can walk into a bank and get it.

Money is tight. Right now the demand for credit from banks is bigger than the supply. Borrowers large and small are competing for money. But it's not their size that's really important. What primarily determines whether a business loan will be made is the credit worthiness of the applicant. Bankers are supplying credit to business and commerce for current needs, and figures indicate small businesses are getting their fair share of the money available.

This is the situation today. Back of it there is a simple banking philosophy.

Bankers like to lend money. It's their bread and butter. But sometimes loans have to be turned down. Remember, bankers are not lending their own money. Bank loans are made from money entrusted to banks by depositors. Therefore bankers must use sound judgment and common sense.

This sums up the general position of commercial banks about loans to small business today. We believe it is a sound position . . . one that gives everybody in the business community a fair chance at available bank credit.

THE
CHASE
MANHATTAN
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MEMBER FEDERAL DEPOSIT INSURANCE CORPORATION

(One of a series of advertisements appearing in New York City newspapers)

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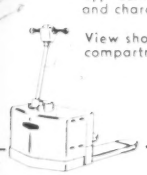


View showing battery compartments closed.

Send for Bulletin

The RAYMOND CORPORATION
4694 Madison St., Greene, N.Y.
Give me more facts on the new Raymond Walkie.

☐ Send Bulletin.
☐ Have representative call.

NAME TITLE
COMPANY
STREET
CITY STATE

13. *Administration.* The whole concept of compensation administration is inextricably intertwined with the concept of what the job of workmen's compensation really is. The old-fashioned idea is that the job is merely to settle any overt disputes among the employer, carrier, and employee. Under this concept, compensation administration was almost exclusively a quasi-judicial function and, apart from the greater informality of commission procedure, could be performed by a court.

The modern idea of compensation administration is that the job of compensation is to restore the workman. Two years ago, I proposed changing the name of the system to "workmen's restoration." I notice it is still called workmen's compensation, however; and one can hardly complain, since that is all it usually is.

Under the newer concept, the compensation administration should see that the workman is given prompt and appropriate medical treatment, prompt and correct cash benefits, immediate consideration for rehabilitation in proper cases, and all the necessary follow-up in difficult and lengthy disabilities and recoveries.

What this means, in terms of administrative structure, is that organizational provision for something more than bare judicial decision-making is needed. The idea of the separate director, who handles administration, generally as distinguished from decision-making, is the modern answer to this need.

Need for Complete Job

At this point I should like to stress that this is one example of how a modern compensation act must be interrelated throughout. Some people have asked why we did not, in place of a complete act, provide a number of suggested separate provisions. But the kind of administrative structure you set up depends on the substantive provisions you are going to administer. If you are going to take no responsibility for medical treatment, rehabilitation, and the like, then perhaps you do not need anything beyond a decision-making board. But if you embark on these broader duties, then you should have administrative machinery to match.

14. *Legal expenses.* Workmen's compensation started out on the idealistic assumption that the fixed statutory benefits would be paid au-

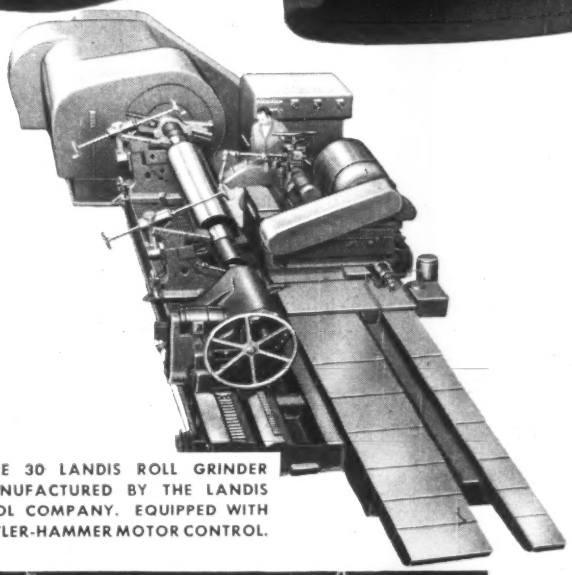
CUTLER-HAMMER

MOTOR CONTROL

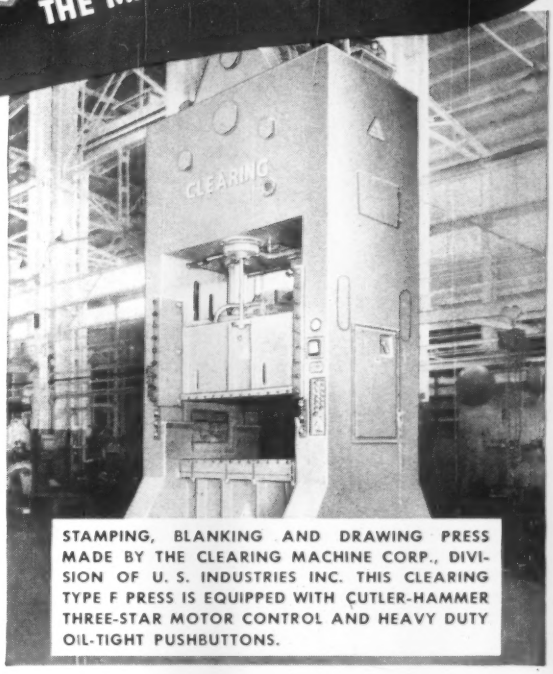
C-H

CHOICE OF THE LEADERS

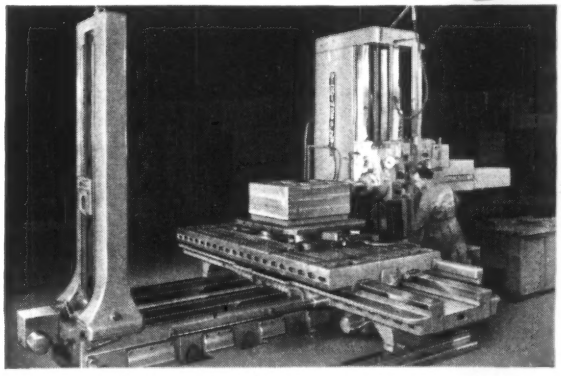
THE MARK OF BETTER MACHINES



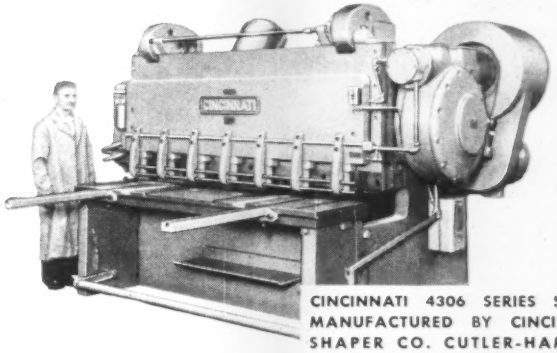
TYPE 30 LANDIS ROLL GRINDER MANUFACTURED BY THE LANDIS TOOL COMPANY. EQUIPPED WITH CUTLER-HAMMER MOTOR CONTROL.



STAMPING, BLANKING AND DRAWING PRESS MADE BY THE CLEARING MACHINE CORP., DIVISION OF U. S. INDUSTRIES INC. THIS CLEARING TYPE F PRESS IS EQUIPPED WITH CUTLER-HAMMER THREE-STAR MOTOR CONTROL AND HEAVY DUTY OIL-TIGHT PUSHBUTTONS.



THE GIDDINGS & LEWIS 30 SERIES TABLE TYPE HORIZONTAL BORING, DRILLING AND MILLING MACHINE USES CUTLER-HAMMER THREE-STAR MOTOR CONTROL AND HEAVY DUTY OIL-TIGHT PUSHBUTTONS.



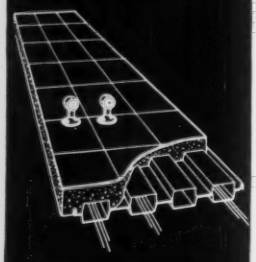
CINCINNATI 4306 SERIES SHEAR MANUFACTURED BY CINCINNATI SHAPER CO. CUTLER-HAMMER MOTOR CONTROL IS FURNISHED AS ORIGINAL EQUIPMENT.

"That Something Extra"

Everyone knows, "It's that something *extra* that makes the leader." This is particularly true when you refer to the leaders among machinery builders. Leading machinery builders *must* have "that something extra" to command the respect and preference of experienced buyers. Compare any leader's machines with others and "that something extra" shows clearly in one or more ways . . . finer workmanship, greater precision, more dependable performance, new and better methods and equipment for operation and control. In recent years, more and more leaders proudly feature Cutler-Hammer Three-Star Motor Control and Heavy Duty Oil-Tight Pushbuttons. Such a marked trend could only result from careful comparison that proved a definite superiority. When you buy machines, you too will find Cutler-Hammer control equipment a reliable guide to satisfaction. Now, more than ever before, Cutler-Hammer Motor Control is the choice of the leaders . . . the mark of better machines. CUTLER-HAMMER, Inc., 1436 St. Paul Ave, nue, Milwaukee 1, Wisconsin. Associate: Canadian Cutler-Hammer, Ltd., Toronto, Ontario.

Don't Build for Tomorrow with Yesterday's Plans!

Milcor Celluflor — the floor of the future — protects your building investment.



Milcor Celluflor cells, spaced on 6-inch centers, allow the installation of service outlets at virtually any point on the floor. Outlets can be relocated and new ones added—quickly, and without the cost of extensive alterations.

Office automation—data processing circuits —improved communications systems— closed-circuit TV—what do they mean to *your* building plans? They mean early electrical obsolescence if your plans haven't provided for these future needs.

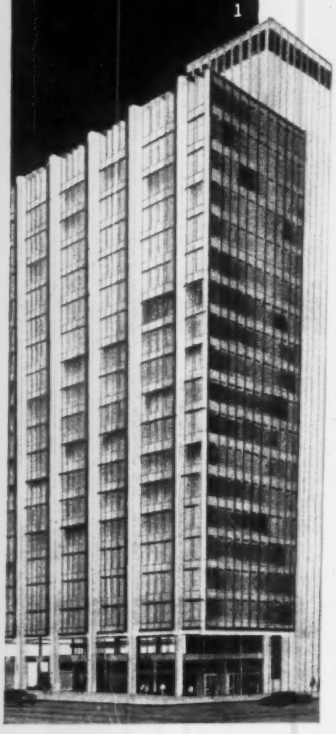
Today's increase in electronic business devices has already overtaxed the capacity for wiring in many buildings erected in recent years. The owners of these buildings face costly renovations to protect their investments.

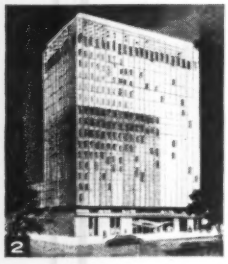
Milcor Celluflor provides built-in raceways with the capacity to handle *all* future wiring requirements — brought to within 3 inches of any spot on the floor! New outlets can easily be installed, or old ones removed, as office requirements change — no need for unsightly, dangerous extensions, overloaded circuits, "octopus" outlets.

Celluflor means construction savings, too. Its strength and light weight permits less expensive foundations, faster erection, earlier occupancy.

Write for Catalog No. 270.

MILCOR® Celluflor



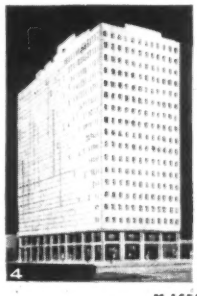


1. In the **Industrial** field
Inland Steel Company Building, Chicago, Ill.

2. In the **Transportation** field
Pennsylvania Transportation Center, Philadelphia, Pa.

3. In the **Banking** field
Federal Reserve Bank Building, Minneapolis, Minn.

4. In the **Financial** field
Commercial Credit Building, Baltimore, Md.



M-1658

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tomatically, and that no allowance had to be made for legal fees.

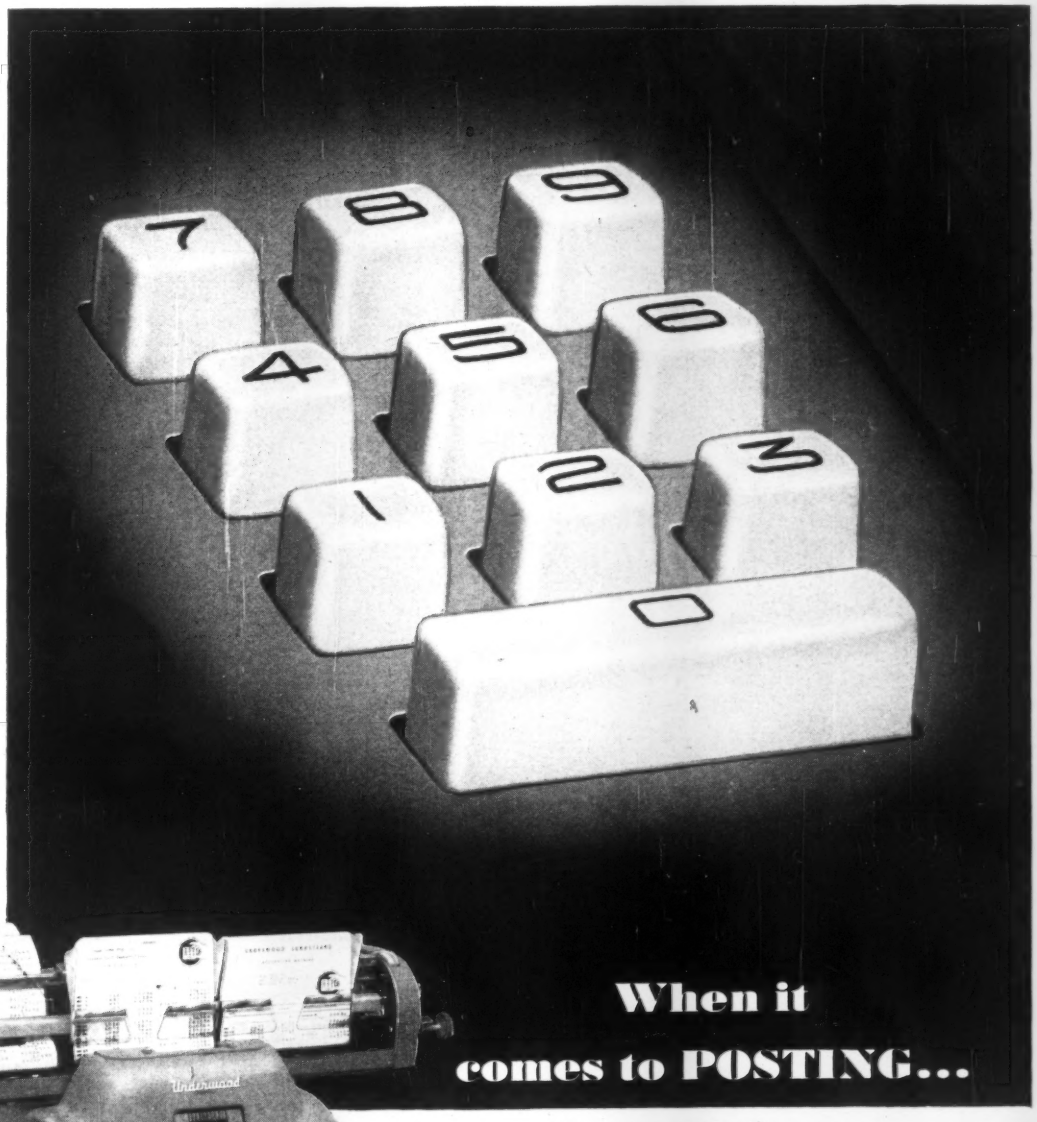
Now it is an established fact that the claimant's counsel is an accepted part of compensation administration. But our rules about legal fees are still back in some never-never land in which all claims are paid without controversy. It is time we stopped playing this Alice-in-Wonderland game of pretending we have a lawyerless system and got on with the job of making systematic and adequate provision for legal fees.

There are only two places those fees can come from. They can come out of claimant's recovery, or they can be paid on top of the recovery. Clearly, they should not come out of the claimant's recovery, because the statutory amount is presumed to be the minimum he needs. It follows by the simplest logical process, then, that the fees should be added to the award.

These are my fourteen points. Any person from any state who wants to preserve our institution of state workmen's compensation has my sincere invitation to go through this checklist, point by point, and see how thoroughly his own state's statute has been brought out of the gaslight era into the atomic age. If he finds that his state is completely up-to-date in all these respects, I congratulate him and his state. (I also suggest he take a second and closer look, for no such state exists.)

But if he finds that his state's statute needs modernizing in some of these areas, and if he would like the benefit of the best handiwork of the experts from other states, then the Department of Labor will be happy to share with him its technical expertise, its drafting facilities, and, on suitable request, its checklist of provisions for a modern and comprehensive workmen's compensation act.

"I don't want any coffee. I like feeling drowsy!"



When it comes to POSTING... these 10 keys make all the difference

Underwood Sundstrand's 10-key touch-operated keyboard is easy to learn, increases your operators' speed and accuracy, ends eyestrain and "head-swing" fatigue. It's a "natural" for posting—Accounts Receivable right through to General Ledger. The keynote is simplicity—the simplicity of the new standard in keyboards—10 keys. For full details, call your Underwood Office, or write:

UNDERWOOD CORPORATION

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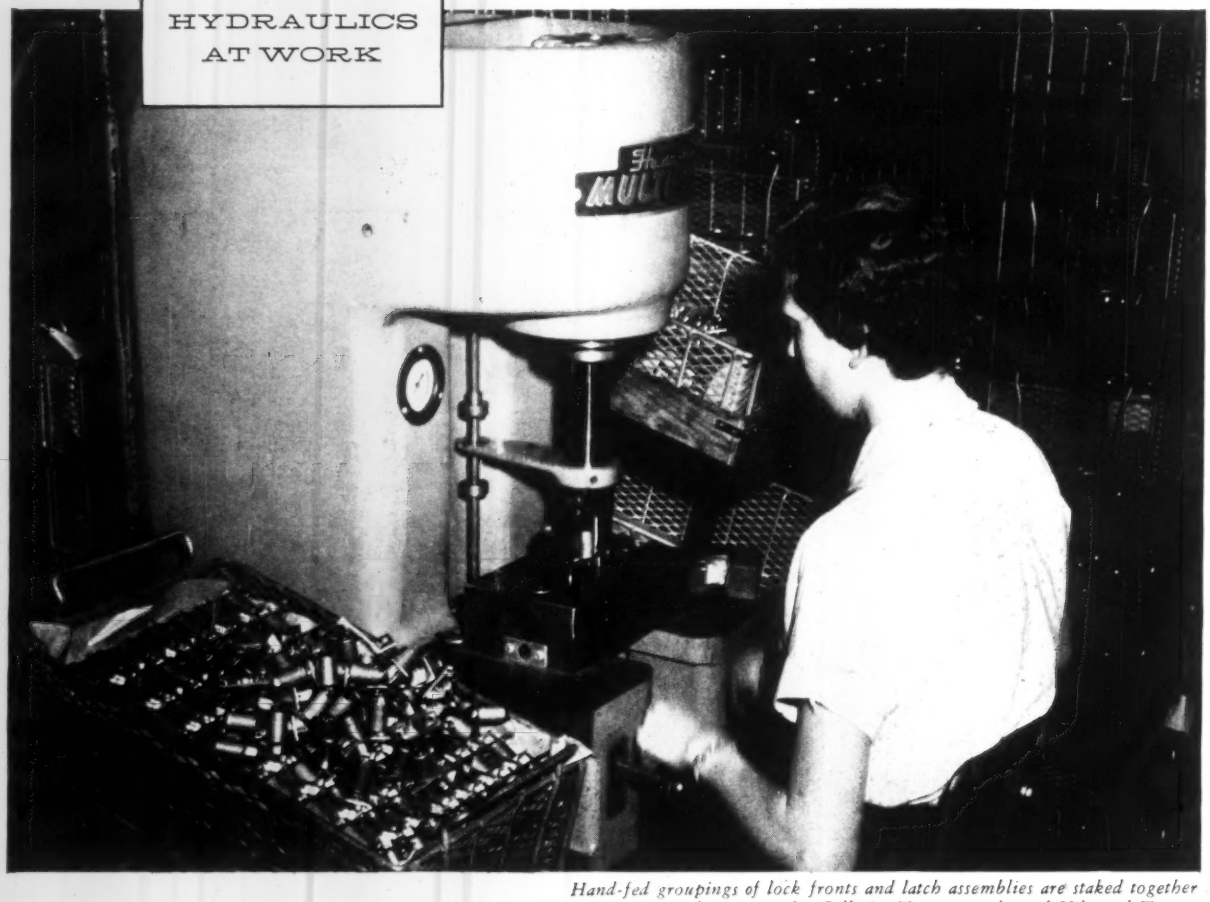
HYDRAULICS AT WORK



Hand-fed groupings of lock fronts and latch assemblies are staked together on a 4-ton Multipress at the Gallatin, Tennessee plant of Yale and Towne.

New Precision for the Door Latch

How Yale and Towne uses Denison hydraulic Multipress to improve hardware production techniques

Yale and Towne Manufacturing Company makes effective use of light Denison hydraulic presses for assembly operations on its hardware line. Multipress has meant better workmanship and lower costs . . . with maximum operator safety an added bonus.

A case in point is a lock front and latch assembly, produced in large volume at the Gallatin, Tennessee plant. The close fitting parts are neatly joined by special tooling on a 4-ton Multipress. The press ram applies enough pressure to effect a permanent fit, with absolute assurance of proper functioning. To actuate the press ram, the operator simply places both hands on dual control knobs, avoiding accidental injury.

Yale and Towne also uses Multipress to assemble glass door knobs. Breakage has been virtually eliminated because of accurately controlled pressure of the Multipress ram.

These operations are typical of hundreds of ways in which the versatile Denison hydraulic Multipress helps to improve production techniques, reduce costs, and increase quality of manufactured goods. Let a Denison hydraulic specialist show you how hydraulic power can steer a new profit course for your company. Write Denison Engineering Division, American Brake Shoe Co., 1162 Dublin Road, Columbus 16, Ohio,

HYDRAULIC PRESSES • PUMPS • MOTORS • CONTROLS

DENISON HydrOILics

HOW TO CREATE A PROFITABLE PRODUCT LINE

HAVE YOU thought out the problems involved in creating a more profitable line of products for your company? One executive who has is Vice President, Marketing, Robert M. Oliver, of Thomas A. Edison Inc. a $35 million (sales) manufacturer of dictating machines, storage batteries, and many other products, located in West Orange, N. J.

In discussing this pivotal problem recently before the National Industrial Conference Board, Mr. Oliver pinpointed the eight basic ingredients which account for product success. Run down this checklist developed by Mr. Oliver and apply each test to your present products, those under development, and those of companies you may be thinking of acquiring:

1. Do you have the people with the know-how? Can you design it, make it, and sell it competitively at a profit? Are they advanced in the art? If not, can you get them?

2. Is it a product, product line, or group of products for which you have resources to provide physical facilities and working capital? In short, do you have the money? Or can you get it? There are plenty of blue-chip products with excellent profit potential. Do you have the blue chips to invest? If not, stay out or get out.

3. Is your plant suited to the economical manufacture of the product? Maybe your competitor is able to make it better and at less cost. If the product is compatible with your facilities and you can be competitive, fine. But be sure of your facts. If not, you're in trouble no matter how long you've been in business.

4. Will your name help sell it? And also, will the product enhance the prestige and value of your name?

5. Is the market large enough to warrant your best efforts? Is the market trend going up or down? If your product is in a growth area, its chances for success are multiplied. For example, Thomas A. Edison Inc. is very much interested and involved in the electronics field because growth has been phenomenal.

6. What about volume? One of the principal causes of lack of profit is low volume. The low-volume lines are usually troublesome. They require disproportionate effort and cannot carry their share of research, development, and promotion costs.

7. Is it a product in which you can achieve leadership? If not, the red light is flashing. If you are not a leader or cannot become one, the other fellow is going to call the shots. A pretty good rule of thumb might be to establish a minimum of 10 per cent as the share of industry you must have for your product to be a profit-maker.

8. Finally, profit. It's hard to do, but the closer you can come to knowing which of your products are profitable and which are not, the nearer you are to sound product policy. This means models as well as products. In measuring profit, remember that the only true measure of profitability is the return on total gross assets employed. Profit percentages of sales are often deceiving.

Thomas A. Edison Inc. recently checked one of its divisions and found 72 models of a certain product. Most of the volume and the bulk of profit was coming from 18 of these models. When you add this to a production situation that plagued management, it doesn't take much imagination to envision what the company decided.

Building a sales personality

Here's a little test for your salesmen. It was developed by the National Sales Executives, Inc. to help determine how good a selling personality your salesmen have. "Yes" answers to all questions mean that the salesman is well on the way to a pleasant and effective selling manner.

1. Is my speech simple and explanatory, free from confusing long sentences and correct to the best of my knowledge?

2. Am I able to conduct really "two-sided" conversations that help clear up misunderstandings?

3. Do I listen when others wish to speak, a courtesy I expect for myself?

4. Have I made a little extra effort to appear as attractive in dress and in grooming as my work allows?

5. Does my face reflect the feelings I am trying to convey?

If the "noes" have it, this may well be a large part of the reason for any lag in sales.

What makes a salesman?

Sales managers know the qualities they would like to see in their salesmen. Or at least they think they do.

To discover which are the most desirable qualities for an equipment salesman to have, Westinghouse Electric recently asked those people who should know best—its customers. Based on a scientific sample of all its customers, this new survey shows that customers give top rating to the salesmen's knowledge of his product. But even if his knowledge about some aspects of the product is a little sketchy, the customer will still be pleased if the salesman admits his uncertainty frankly and promises to get the information promptly.

Among the qualities rated highly by Westinghouse's customers are:

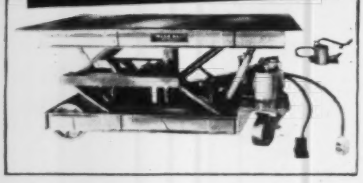
1. The salesman's zeal in following up on orders as well as getting them. He should worry about delivery and inform the customer quickly if snags develop.

2. Tact in recognizing working relations in the customer's company. He determines where the purchasing influence lies but is careful to touch all bases.

3. Initiative in learning about his customer's business. He is enthusiastic, affirmative, and aggressive without becoming a nuisance.

"Muscle Savers"
for Handling Sheet Metal, Heavy Dies or Parts...

Weld-Bilt
HYDRAULIC
LIFT TABLES

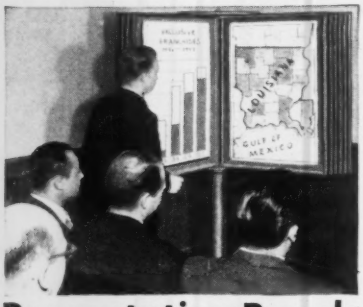


Easily lifts loads up to 10 tons — to heights from 26" to 42" — for production handling. Hydraulically operated through foot pump or electric operation controlled by foot switch, or push button. With or without wheels. Write for prices and bulletins. For information on our complete line write us or our nearby representative.

"Weld-Bilt" PRODUCTS

Hydraulic Lift and Pallet Trucks — Automatic and Portable Elevators — Conveyors — Drum Elevators — Skids — Special Equipment.

WEST BEND EQUIPMENT CORP.
MATERIALS HANDLING ENGINEERS
303 WEST WATER STREET • WEST BEND, WIS.



Presentation Panels
12-page bulletin board for
- Planning sessions
- Sales meetings
- Employee training

Panels swing "like pages in a giant book," providing many times the display space of an ordinary wall-mounted bulletin board. *Shown above:* typical pedestal-type unit with twelve 24" x 36" steel-framed composition-board panels. *Also available:* wall and table-top models, many panel sizes, several colors and finishes. *Other uses:* retail displays, Directors' meetings, conventions, lobby exhibits, advertising presentations, libraries, etc. Mail coupon for descriptive literature and prices.

MULTIPLEX DISPLAY FIXTURE CO.
939-949 North 10th St. St. Louis 1, Missouri
Please send literature on Presentation Panels

N-56

EXTERNALS . . *continued from page 50*

ing department gathers data not only for the *Bakelite Review* but for all company advertising, literature, and publicity. Leads are developed from salesmen's call reports and by direct contacts with customers.

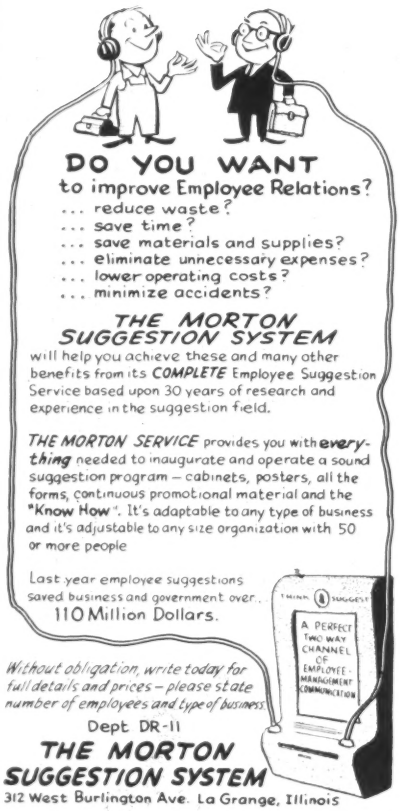
A somewhat similar system is used at Rem Rand. The company publication editor works closely with the sales department in digging out story leads. These are then assigned to a string of free-lance writers across the country. After a case history is completed, it goes into a folder to be used in preparing information for business magazines and the trade press, advertising material, and of course *Systems* magazine.

Some companies such as Crane Company of Chicago and American Brake Shoe of New York offer prizes to salesmen for providing case histories. Although gathering the material may cut into precious selling time, some companies find this a worthwhile investment since it takes salesmen into direct contact with higher echelons of the customer company and may lead to larger orders in the long run.

The kind of editorial material to be included in an external company magazine depends of course on the audience to be reached, the company's competitive position, the nature of the product, and the publication's place in the entire advertising and public relations program.

However, there is an increasing trend away from the "friendly philosopher" approach in external company magazines. Humor columns and philosophical musings still appear in many externals, but the fast pace of competition is producing a rising number of product-application sales magazines. While the circulation of the former type of magazine has generally been declining, the product application type has been booming. For example, the circulation of Standard Register's *Paperwork Simplification* has risen to 70,000 from 50,000, and the *Monsanto Magazine* now goes to 105,000 readers compared with 52,000 a few years ago.

The rise of these and many other objective, product-application sales publications can be credited to the fact their companies have their eye on the main target—to show customers and prospects how to increase their profits.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to improve Employee Relations?
... reduce waste?
... save time?
... save materials and supplies?
... eliminate unnecessary expenses?
... lower operating costs?
... minimize accidents?
THE MORTON SUGGESTION SYSTEM
will help you achieve these and many other benefits from its COMPLETE Employee Suggestion Service based upon 30 years of research and experience in the suggestion field.
THE MORTON SERVICE provides you with everything needed to inaugurate and operate a sound suggestion program – cabinets, posters, all the forms, continuous promotional material and the "Know How". It's adaptable to any type of business and it's adjustable to any size organization with 50 or more people
Last year employee suggestions saved business and government over 110 Million Dollars.
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A PERFECT TWO-WAY CHANNEL OF EMPLOYEE-MANAGEMENT COMMUNICATION
Without obligation, write today for full details and prices – please state number of employees and type of business
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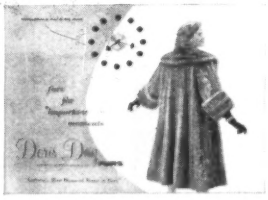


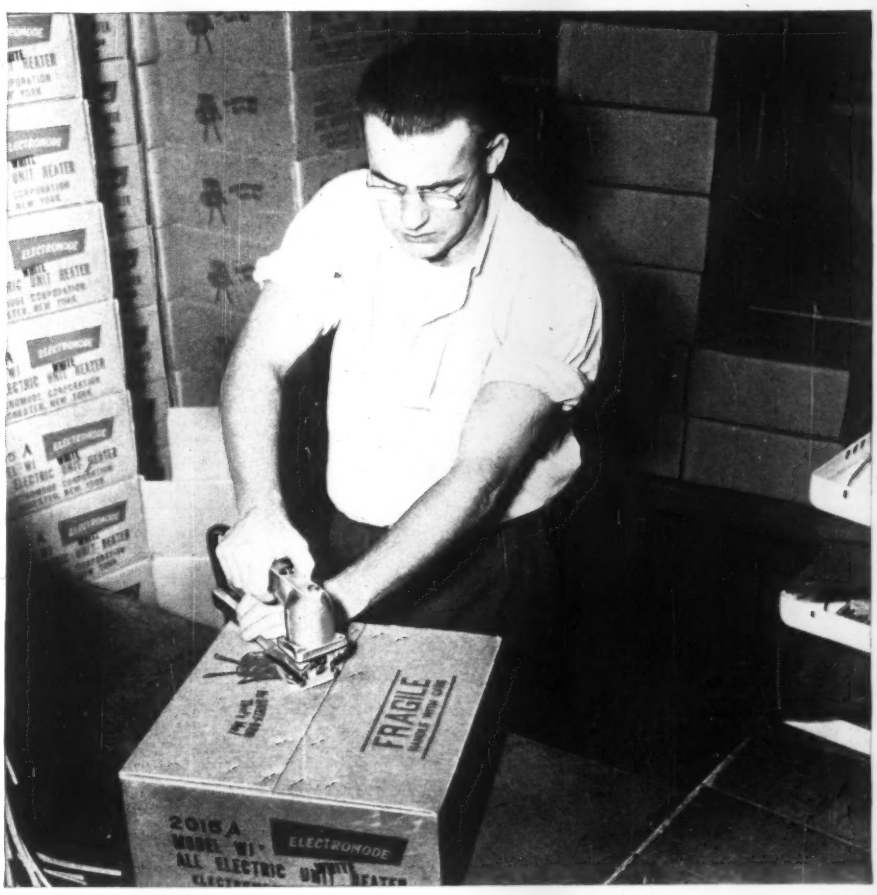
Furs for Business
. . . AT WHOLESALE PRICES

When furs are the prize . . . whether it be sales incentive, customer gift, or Christmas personnel reward (or even a promotion in your plant in which you or your favorite charity will *make* money . . . and your employees will *save* money), you can count on Doris Day to do the trick. The label worn by more women than any other brand of furs is now available to you in a unique merchandising plan. We put the facilities of a huge wholesale operation at your disposal – a tremendous selection at guaranteed wholesale prices. 100 furs or 1 fur piece . . . a $5,000 mink or a $25 "little fur" – whatever you wish is shipped *on approval*.

Write for "FURS FOR BUSINESS" catalog TODAY.

Doris Day INC.
"America's Most Honored Name in Furs"
130 West 30th Street • New York 1, N. Y.

In the December issue:
New Materials that Bounce
Part III: Butyl Rubber



Bostitch D9AD Stapler *power drives* staple into carton flaps and *clinches from the outside*

"Stapling results in a 20% saving"

says PLANT SUPERINTENDENT

Plant superintendents are always looking for ways to cut costs. When a Bostitch Economy Man called at the plant where this photo was taken, a brief demonstration was enough to prove the advantages of a Bostitch air-driven stapler over gummed tape.

In practice, results are:

1. 20% saving in fastening time
2. Neater, cleaner package
3. More space left free for advertising and stenciling on container
4. Improved employee morale and efficiency

Call your nearest Bostitch Economy Man (375 of them in 123 cities) or mail coupon.

Fasten it better and faster with

BOSTITCH®
STAPLERS AND STAPLES

START SAVING NOW!

BOSTITCH, 671 Mechanic St., Westerly, R. I.

☐ Send me a folder about D9AD Air Driven Stapler
☐ Ask an Economy Man to call on me

We are now using (please check)
☐ gummed tape ☐ steel bands ☐ glue ☐ other

Name _____

Company _____

Address _____

City _____ Zone _____ State _____

The same trucks that do the stacking also transport appliances from end of assembly line to storage, and from storage to loading docks. Two-way radio dispatch system expedites movement.

13 BAKER TRUCKS give General Electric Appliance Park "floor-to-ceiling" utilization of warehouse space!

Every cubic foot of storage space in this mammoth appliance warehouse is utilized by compact stacking. Baker Trucks, equipped with a special lift attachment that handles cartons or crates without forks, help do the job.

General Electric has a fleet of 13 such trucks at this installation and is adding 5 more. This new concept in appliance handling completely eliminates the use of pallets—which would have meant an additional investment 8 or 9 times the cost of the trucks. The absence of forks and pallets makes possible stacking one tier higher and reduces aisle space required, thus increasing storage capacity more than 25%.

The trucks have a total lift of 242 inches. Appliances are handled 4 per load for the bottom 2 tiers, and 2 per load for upper tiers. Gravity sliding back-rest aligns loads perfectly with tiers below and protects them from impact damage. Side-shifter butts loads snugly against adjacent stack for lateral alignment.

A Baker handling engineer can help you devise similar cost-saving methods in your plant or warehouse. Call your nearest Baker representative or write us direct.

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handling equipment

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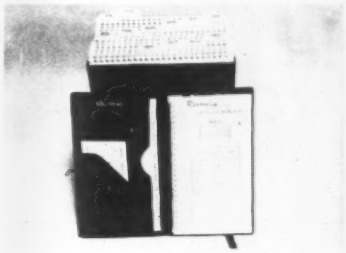
Salesmen
Sell More



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1. The names and addresses of the publisher, editor managing editor, and business manager are: Publisher, None; Editor, A. M. Sullivan; 99 Church Street, New York 8, N. Y.; Executive Editor, M. Joseph Dooher, 99 Church Street, New York 8, N. Y.; Business Manager, None.

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Sworn to and subscribed before me this 5th day of September, 1956. NELLIE L. FENKER (Seal) (My commission expires March 30, 1957).

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NEW YORK, 99 Church Street ..... ALEX J. DUGHI, *Advertising Manager*
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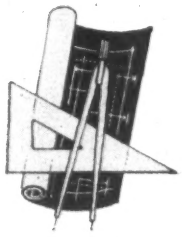
PHILADELPHIA, 3 Penn Center Plaza ..... Alvah B. Wheeler
ATLANTA, 1722 Rhodes-Haverty Bldg. ..... H. F. Cogill, Morgan Pirnie
PITTSBURGH, 5215 Centre Ave. ..... Vince Winterhalter
CHICAGO, 300 W. Adams St. ..... John Krom, Ralph O. McGraw
CLEVELAND, 629 Terminal Tower ..... William Burleigh
DETROIT, 1100 Cadillac Tower ..... Carl Neppach, Jr.
LOS ANGELES, 610 S. Main St. ..... Walter Huckins

Craftsmen of the 20th Century

No. 21 of a series to introduce you to some of industry's outstanding plastics craftsmen



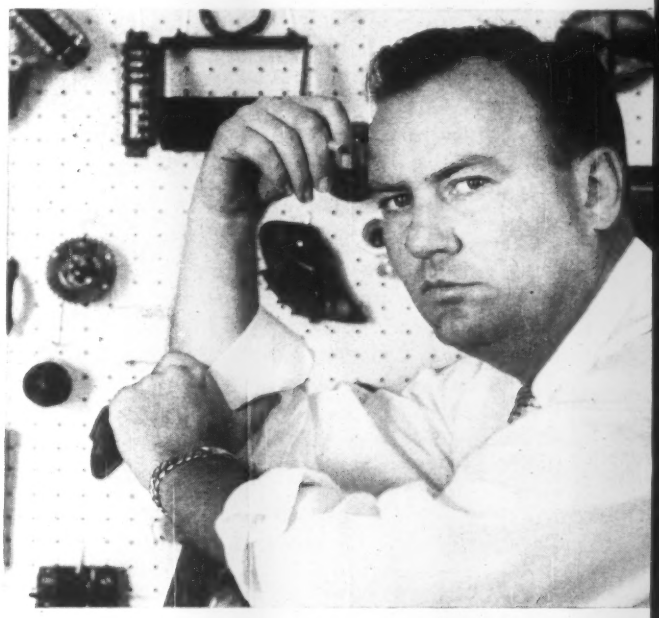
The artisans of other ages enriched the world with beautiful objects of wood and silver, iron or glass. Today's craftsmen are applying their creative skills and the same insistence on perfection to the mastery of new materials—the fabulous family of plastics. Monsanto, a major producer of high-quality plastics materials, salutes two of these Craftsmen who are helping to mold America's tomorrow.

When your plans call for plastic parts or products, consult an expert custom molder

William Ringlieb, Boonton Molding Co., Boonton, N. J. Mr. Ringlieb is a real old timer in the plastic molding business. At present General Superintendent of the Compression Custom Molding Division of Boonton with responsibility for round-the-clock operation of something over 100 presses, he got his start as a molder in 1921.

When he came with Boonton in 1923, all he had to work with were 14 eight-inch ram solid head presses equipped with hand pumps. All molds were hand type, and no phenolic material could be removed without first cooling the mold under pressure. The first material that could be pulled hot was a sensation. He well remembers cooling large molds up to forty-five minutes to get a good piece.

Asked if he had any problems left in view of the company's wide variety of press types and sizes, electronic pre-heaters, comprehensive charts and records, and the almost endless selection of molding materials, his answer was interesting—"keeping all flash off soft inserts, so that the finishing department can complete the operation without any scratching of the insert. On cadmium and tin plate, and on soft silver, that is a real trick, especially when aggravated by multiple cavity molds and present day pressure for production."



Richard Finley, Plastics Research Products Company, Div. of Grimes Manufacturing Co., Urbana, Ohio. Since entering the plastics field in 1938 as a press operator, Mr. Finley has moved successively through all phases of production, supervision and management. In 1952, he joined Plastics Research as Production Manager and since 1955 has had the dual responsibility of Plant Manager along with production. Aircraft, automotive, and home appliances are some of the major industries for which the company molds over 300 different parts on 56 huge presses with an output ranging from 40,000 to 60,000 pieces daily. Under Mr. Finley's guidance, Plastics Research has concentrated mainly on medium-large pieces such as agitators, blower wheels for high speed clothes dryers and pulsators, utilizing compression molding techniques. The company is also equally well geared for molding small parts such as insulators the size of a pencil eraser.

Comments Mr. Finley, "Today the plastics industry has far better engineering and better molding compounds–special formulations furnish specific properties as needed. Specifications for plastics are as exacting as those for metals. Often the molded part has to meet tolerances as close as plus or minus .002. That's why plastics are an integral part of the industrial scene."

MONSANTO CHEMICAL COMPANY,
PLASTICS DIVISION, SPRINGFIELD 2, MASS.

MONSANTO

Resinox: Reg. U. S. Pat. Off.

RESINOX
PHENOLIC MOLDING COMPOUNDS

NOW THAT THE VOTES ARE COUNTED

WE DON'T KNOW the election results as we write these words, but you do as you read them. In any event, we are still in business. The important fact is that our country has a flexible and durable framework that is as adaptable in time and dimension as it is rigid in principle. The survival of the nation with its political, social, and economic system does not depend upon the current complexion of Congress nor upon the will of an individual leader, but rather upon the long-term confidence of the citizen in the quality of his government. Our nation has the in-built strength to meet stress or withstand shock from any quarter of the compass. The men who designed the Constitution allowed for the expansion of ideas as well as national borders as they looked at the potentials of a continent.

Elections provide for an appraisal of services rendered, but the nation does not falter in stride with a shift in management policy when the mandate is given by the voter. Neither Republican nor Democrat disturbs our inherited guarantees or civic responsibilities, no matter how much election oratory disturbs the air waves in the heat of debate. In the recent campaign, the differences in party platforms were largely differences in degree rather than principle. Personalities rather than specific issues met in head-on collision.

There is no porridge so cold and tasteless as the political speech the week after election day, and no picture so dismal to behold as the poster of a defeated candidate facing the Winter winds. Not even a World Series box score can be so meaningless as a tabulation sheet of election returns when the first snow falls.

Well, the election is over, the results are known, and it is time to go back to work and adjust all disputes of a social and economic nature for the greatest good of the greatest number for the longest period possible. But in going back to the job of managing our own businesses, let's not overlook the administrators in government. The complexity of society with its regulatory laws requires an army of public officials. We can have no sympathy for the slothful, free-loading, or dishonest servant in any level of government. But we must recognize the devotion of the dedicated public servant, whether elected or appointed, who makes a career of unselfish service to his country and community, and reward him with understanding at least.

We have our problems to face at home and abroad, but problems are always with us, and they make life interesting, exciting, and at times alarming. Problems and remedies are in constant tension. Pick any magazine of ten, fifty, or a hundred years ago and you will read, "In these difficult days . . ." The earth rolls on, people come and go, and the same challenges arise to test our ingenuity to meet them. Not even the perils of nuclear fission can alter the daily demand that we perform a useful service and go about business with a spirit of hope and affirmation, because tomorrow always comes.

What are the challenges of the day to business men? There are many in name, but actually few in definition. Business men are always looking for something new in the improvement and usage of materials; so there is the illimitable field of product research. Business men are continually seeking new ways to sell; thus there is a fascinating field in consumer research. There is big business, middle business, and small business to consider in a cooperative as well as a competitive spirit, and the problem here is as simple or complex as our method of approach to the individual situation. The remedy must be found in specific analysis and appraisal.

Business men cannot isolate themselves from the political events at home and abroad which have a direct bearing on the prestige of the country. World leaders measure American influence by the quality of our judgments and the informed opinions of the men of industry and trade. We cannot escape the responsibility of keeping informed and translating information into action.

The Editors

William Keelor with his NO-SEE Grass Barrier that prevents lawns from invading flower beds and shrub borders.

Telephone plan helps build national distribution

Keelor Steel Co. of Minneapolis started advertising its NO-SEE Grass Barrier to the garden trade three years ago, answering all inquiries *by telephone*. Today, the product is handled by dealers all over the country.

"I call my distributors regularly," says Mr. Keelor. "It gives me a running account of their inventories and sales . . . plenty of leeway to plan production. Telephoning's the most economical way I know to put my kind of product across." . . .

This is only one of many ideas for economical use of the telephone in business . . . ideas that can help you. A telephone representative will gladly discuss them with you. Just call your Bell Telephone Company business office today. BELL TELEPHONE SYSTEM

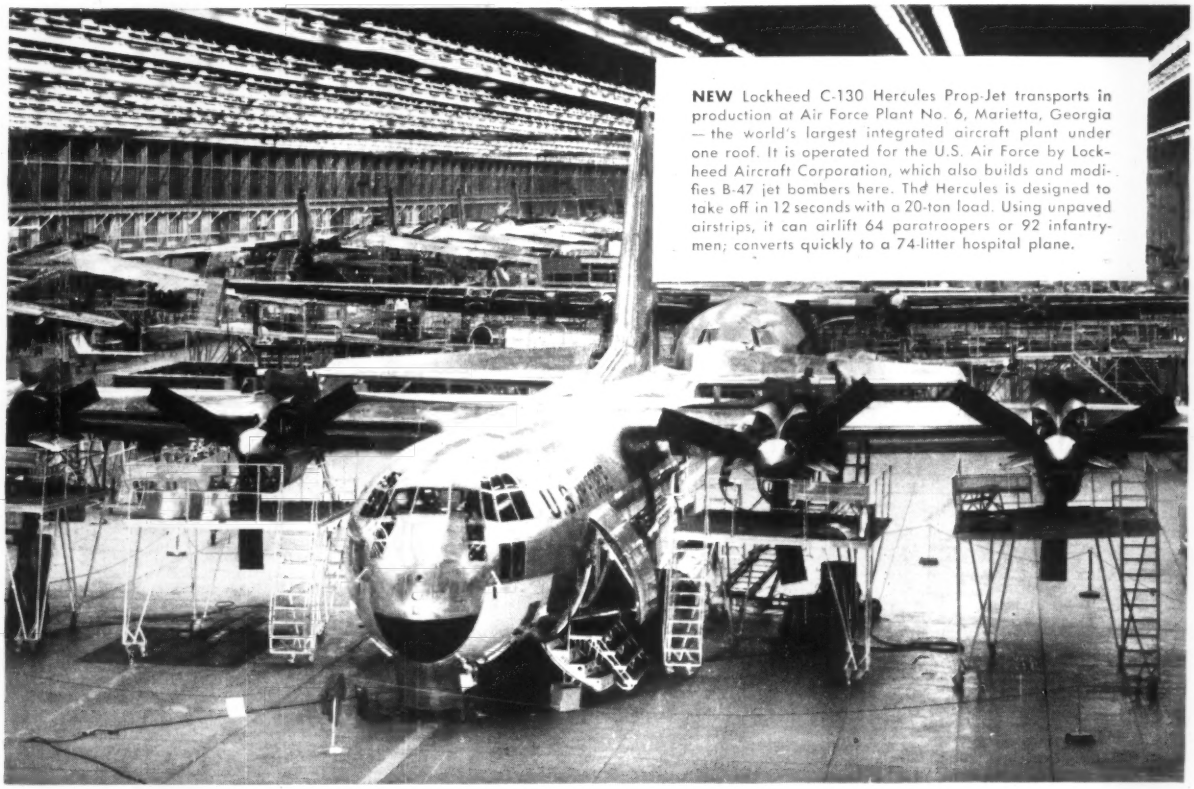
LONG DISTANCE RATES ARE LOW

Here are some examples:

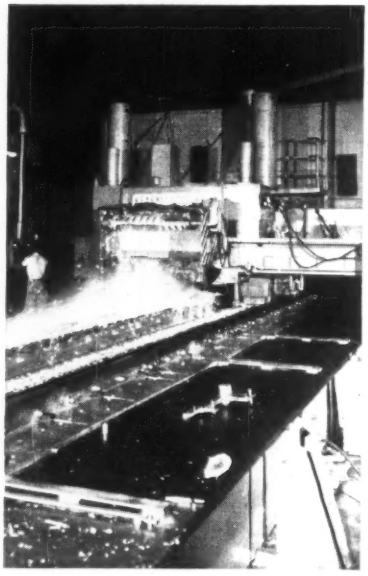
New York to Wilmington, Del.	60¢
Dallas to New Orleans	$1.25
Minneapolis to Cleveland	$1.40
Milwaukee to Boston	$1.60
Los Angeles to Tulsa	$1.90

These are the *daytime* Station-to-Station rates for the first three minutes. Add the 10% federal excise tax.

Call by Number. It's Twice as Fast.



NEW Lockheed C-130 Hercules Prop-Jet transports in production at Air Force Plant No. 6, Marietta, Georgia — the world's largest integrated aircraft plant under one roof. It is operated for the U.S. Air Force by Lockheed Aircraft Corporation, which also builds and modifies B-47 jet bombers here. The Hercules is designed to take off in 12 seconds with a 20-ton load. Using unpaved airstrips, it can airlift 64 paratroopers or 92 infantrymen; converts quickly to a 74-litter hospital plane.



Combination spar and skin miller operating in Lockheed plant. *Texaco Soluble Oil* emulsions are used exclusively in these operations.

How Lockheed keeps production on schedule and reduces costs

TO KEEP its metalworking operations on schedule and its costs in line, Lockheed uses *Texaco Cutting, Grinding and Soluble Oils* at its Marietta plant. For example—

Texaco Soluble Oil emulsions are used on all spar and skin milling operations. The resulting improved performance of the millers (even at cutting speeds above 5,000 s.f.p.m.), the greater cleanliness, the substantially longer tool life—all add up to on-schedule production and lower unit costs.

There is a complete line of *Texaco Cutting, Grinding and Soluble Oils* to help you do all your machining better, faster and at lower cost. A Texaco Lubrication Engineer will gladly help you select the proper ones.

Just call the nearest of the more than 2,000 Texaco Distributing Plants in the 48 States, or write:

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The Texas Company, 135 East 42nd Street, New York 17, N. Y.

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